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# THE GREAT IDEAS

## *A Syntopicon of*

### *Great Books of the Western World*

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MORTIMER J ADLER *Editor in Chief*

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#### VOLUME II



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# EXPLANATION OF REFERENCE STYLE

THE references have a uniform typographical style but the manner of referring to particular works varies in certain respects. The Explanation of Reference Style describes the typographical construction of the references, with some comment on the variations. It is divided into four parts:

- I General Typographical Style
- II Style of Bible References
- III Punctuation Symbols Abbreviations
- IV Table of Authors' Titles, and Author's Divisions Cited

## I GENERAL TYPOGRAPHICAL STYLE

The two examples below illustrate the general typographical pattern of the references to *Great Books of the Western World* and the headings above the examples call attention to the five elements commonly present in the construction of the references:

Volume Number	Author's Name	Title of Work	Author's Divisions	Page Sections
35	LOCKE	<i>Human Understanding</i>	BOOK II CHAPTER XXI	178a 200d
41	GIBBON	<i>Decline and Fall</i>		365b 378d

### (1) Volume Number

The volume number indicates in which volume of *Great Books of the Western World* the work or passage referred to can be found. Most volumes contain the work of one author. When a single volume contains the works of two or more authors, the volume number is given for each author. When the work of a single author is contained in two volumes, the volume number is assigned according to the contents of the volume.

### (2) Author's Name

The author's name immediately follows the volume number, except in the case of the American State Papers and the Federalist, which are included in Volume 43. Authors' names are usually given in shortened form.

### (3) Title of Work

The title follows the author's name with the two exceptions above noted. Titles are also frequently abbreviated or shortened. When two or more works are cited for a single author the titles are listed in the order in which the works appear in the volume.

### (4) Author's Divisions

By author's divisions is meant all such subdivisions of a work as book, part, section, chapter, paragraph, line number. The phrase author's divisions does not necessarily mean divisions made by the author; they may have been made by an editor of his work.

Author's divisions are given only for some works according as in the judgment of the editors their inclusion would prove meaningful or helpful to the reader. References to Locke, for instance, as in the example, always cite author's divisions, whereas references to Gibbon, as in the example, do not.

For some works author's divisions are completely given, as for Locke. For other works only the most important or largest divisions are given. Thus for Rabelais only the book but not the chapter is given.

Line numbers in brackets are given for all works of poetry, including those published in prose translations. For Goethe's *Faust* the line numbers cited refer to the lines of the English translation as well as to the lines of the original German. For other poetical works in translation—the works of Homer, the Greek dramatists, Lucretius, Virgil, and Dante—the line numbers cited refer to the lines of the works in their original languages; for these works the line numbers printed on the pages of this edition furnish only an approximate indication of the location of the equivalent lines in the English translation. For all poetical works written in English the line numbers are the numbers of the English lines. In the case of Chaucer's *Canterbury Tales* the numbering of the lines is consecutive for all the tales written in verse.

In references to the works of Aristotle (in Volumes 8 and 9) the figures and letters enclosed in the brackets signify the page, column, and approximate line in the Berlin edition of the Greek text edited by Immanuel Bekker. In references to the *American State Papers* (in Volume 43)

the bracketed line numbers refer to the lines on the pages of this edition only

In references to the *Summa Theologica* of Thomas Aquinas (in Volumes 19 and 20) the author's division Part I-II stands for Part I of the Second Part and Part II-II stands for Part II of the Second Part. In the case of the *Summa Theologica* the author's divisions cited may include not only questions and articles but the subdivisions of articles. In such cases the page sections correspond in extent to that of a whole article to enable the reader to see the subdivision of an article when it is cited in the context of other parts to which it is related.

Author's divisions precede page sections except in the case of footnote and note numbers which follow page sections. When more than one passage is cited within the same author's division the author's division is not repeated, as, for example

38 ROUSSEAU *Social Contract* BK II 403a 404a 405d 406a

### (5) Page Sections

The pages of *Great Books of the Western World* are printed in either one or two columns. The upper and lower halves of a one-column page are indicated by the letters a and b. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand column the letters c and d to the upper and lower halves of the right hand column. These half and quarter page sections are based on divisions of a full text page.

Page sections give the page numbers and locate the sections of the page in which the passage referred to begins and ends. For example in the reference

53 JAMES *Psychology* 116a 119b

the passage cited begins in the upper half of page 116 and ends in the lower half of page 119. In the reference

7 PLATO *Symposium* 163b 164c

the passage cited begins in the lower half of the left hand column of page 163 and ends in the upper half of the right hand column of page 164.

In references to works printed in two columns the format of the page



sometimes places continuous reading matter in the a and c sections of the upper half of the page, or in the b and d sections of the lower half of the page. This occurs when a work or an author's division begins in the lower or ends in the upper half of the two column page. Where continuous reading matter thus appears in discontinuous page sections it is indicated by a c or b d. For example

14 PLUTARCH *Solon* 64b d 77a c

means that the work cited begins in the lower half of page 64 and ends in the upper half of page 77.

Footnotes or notes are sometimes specifically cited by themselves in the references in which case the page sections given correspond to their location on the pages referred to. When a footnote or a note is not specifically cited the page sections given mark the beginning and the end of the text referred to. The reader is expected to consult the footnotes or notes indicated in the body of that text.

Chaucer's works (in Volume 22) are printed in two columns: the inside column of each page contains the Middle English text; the outside column a Modern English version. Since both columns contain equivalent passages the references to this volume employ page sections (a and b) which divide each page only into an upper and a lower half.

## II. STYLE OF BIBLE REFERENCES

All Bible references are to book, chapter, and verse in both the King James and Douay versions of the Bible. When the King James and Douay versions differ in the title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows. For example

OLD TESTAMENT *Nehemiah* 7:45—(D) *II Esdras* 7:46

In references to the Bible a colon is used to separate chapter and verse numbers, and a comma separates the numbers of verses in the same chapter. For example

OLD TESTAMENT *Exodus* 6:1-4:16-18

III PUNCTUATION SYMBOLS, ABBREVIATIONS, <sup>1, 2</sup>

## (1) Punctuation

**Diagonal line** When a series of references to one author includes two or more of his works published in the same volume a diagonal line is used to separate references to one work from references to another. The diagonal line is used in the same way to separate references to different books of the Bible. For example

OLD TESTAMENT *Exodus* 33 12-23 / *Job* 11 7-9  
43 MILL *Liberty* 302d 303a / *Representative Government* 327b d 332d

**Semi Colon** When a series of references includes the citation of two or more passages in the same work a semi-colon is used to separate the references to these passages. For example

OLD TESTAMENT *Genesis* 1 12-14 9 1-11  
38 ROUSSEAU *Social Contract* bk. II 403a 404a 405d 406a /  
46 HEGEL *Philosophy of History* PART II 265c 266a PART IV 346c 348a

**Comma** When a comma separates the title of a work, or an author's division of a work from the page sections which follow passages cited are only a part of the whole work or of the author's division indicated. For example in the references

14 PLUTARCH *Lycurgus* 36a b 44d-45c  
36 SWIFT *Gulliver* PART II 73a 74b /

the passages from Plutarch are only a part of *Lycurgus* and the passage from Swift is only a few pages from Part II of *Gulliver's Travels*

When the title of a work or an author's division of a work is *not* separated by a comma from the page sections which follow the reference is to the whole work or to the whole of the indicated author's division. For example in the references

14 PLUTARCH *Lycurgus* 32a-48d  
36 SWIFT *Gulliver* PART II 45a 87b

the whole of *Lycurgus* and the whole of Part II of *Gulliver's Travels* are cited

## (2) Symbols

*esp* The abbreviation *esp* precedes one or more especially relevant passages which are contained within the page boundaries of a larger passage or a whole work that has just been cited

Whenever passages contained within a single reference are especially referred to a comma after the page sections separates these passages For example

42 HANT *Science of Right* 435a 441d *esp* 435c 436b 437c-d 438d 441d

Whenever passages contained within a single reference to the Bible are especially referred to a comma is also used to separate these passages For example

NEW TESTAMENT *Romans* 1-8 *esp* 2 11-16 2 27-29 7 21-25 8 27

*passim* The word *passim* following a reference signifies that the work or passage referred to discusses the topic under which it is cited, intermittently rather than continuously For example

9 ARISTOTLE *Politics* BK II CH 7 461d 463c *passim* / *Athenian Constitution* CH 1-41 553a 572d *passim*

## (3) Abbreviations

The following is a list of the abbreviations used in the references Unless an abbreviation for the plural is listed below the singular abbreviation is used for both singular and plural words

A	ARTICLE	[n]	note
AA	ARTICLES	OT	OLD TESTAMENT
ANS	ANSWER	par	paragraph
APH	APHORISM	PREF	PREFACE
BK	BOOK	PROP	PROPOSITION
CH	CHAPTER	Q	QUESTION
COROL	COROLLARY	QQ	QUESTIONS
(D)	DOUAY	REP	REPLY
DEF	DEFINITION	SC	SCENE
DEMONST	DEMONSTRATION	SCHOL	SCHOLIUM
DIV	DIVISION	SECT	SECTION
EXPL	EXPLANATION	SUPPL	SUPPLEMENT
[fn]	footnote	TR	TRACTATE
INTRO	INTRODUCTION		

# IV TABLE OF AUTHORS' TITLES AND AUTHOR'S DIVISIONS CITED

The following pages present a tabulation of the contents of *Great Books of the Western World*, Volumes 4-54. The authors are enumerated in the order in which they appear in the successive volumes of the set, and under each author's name the titles of his works are listed in the order of their appearance.

In the references the name of the author is frequently given in shortened form. In this table their full names are given, followed by their life dates when these are ascertainable. Because some volumes contain the works of two or more authors who may be separated by centuries, the order in which the authors are cited in the references sometimes departs from the strict chronological order. The life dates help the reader to place the authors and their works in the right chronological order.

In the references the title of a work is frequently given in an abbreviated or shortened form. In this table the titles are first given exactly as they appear in the references. Whenever this is an abbreviated or shortened title, the full title follows.

The table also includes a notation of the author's divisions that are used in references to particular works.

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A dash in the column headed *Author's Divisions Cited* means that references to the work or works in question cite page sections only. Where the author's divisions cited are the same for several titles, they are named only once, either opposite the set of titles as a whole, or opposite the last title in the group.

Titles in brackets are collective titles which appear on the title page of the work but do not appear in the references. The names of the authors of *The Federalist* (in Volume 43) are bracketed because they do not appear in the references.

Volume Number	Author's Name and Title	Author's Divisions Cited
4	HOMER <i>The Iliad</i>	<i>The Odyssey</i> BOOK LINE
5	ÆSCHYLUS (525-456 B.C.) <i>The Suppliants and Maidens</i> <i>The Persians</i> <i>The Seven Against Thebes</i> <i>Prometheus Bound</i>	<i>Agamemnon</i> <i>Choephoroe</i> <i>Eumenides</i>

Volume Number Author and Title

Author's Divisions Cited

## 5 SOPHOCLES (c 495-406 B.C.)

*Oedipus the King*  
*Oedipus at Colonus*  
*Antigone*  
*Ajax*

*Electra*  
*Trachiniae*  
*Philoctetes*

Line

## 5 ELIASPIDES (c 480-406 B.C.)

*Rhesus*  
*Medea*  
*Hippolytus*  
*Alceis*  
*Heracleidae*  
*The Suppliants*  
*The Trojan Women*  
*Ion*  
*Helen*  
*Andromache*

*Electra*  
*The Bacchantes*  
*Hecuba*  
*Heracles Mad*  
*The Phoenician Maidens*  
*Orestes*  
*Iphigenia Among the Tauri*  
*Iphigenia at Aulis*  
*The Cyclops*

Line

## 5 ARISTOPHANES (c 445-c 380 B.C.)

*The Acharnians*  
*The Knights*  
*The Clouds*  
*The Wasps*  
*The Peace*  
*The Birds*

*The Frogs*  
*The Lysistrata*  
*The Thesmophoriae*  
*The Ecclesiazusae*  
*The Plutus*

Line

## 6 HERODOTUS (c 484-c 425 B.C.)

*The History*

BOOK

## 6 THUCYDIDES (c 460-c 400 B.C.)

*Peloponnesian War—The History of the Peloponnesian War*

BOOK

## 7 PLATO (c 428-c 348 B.C.)

*Clarmides*  
*Lysis*  
*Lahees*  
*Protagoras*  
*Euthydemus*  
*Cratylus*  
*Phaedrus*  
*Ion*  
*Symposium*  
*Meno*  
*Euthyphro*  
*Apology*  
*Crito*

*Phaedo*  
*Gorgias*  
*The Republic*  
*Timaeus*  
*Critias*  
*Parmenides*  
*Theaetetus*  
*Sophist*  
*Seitman*  
*Philebus*  
*Lysis*  
*The Seventh Letter*

—except *Republic*  
 and *Lysis* BOOK

## Volume Number Author and Title

## Author's Divisions Cited

## 8 ARISTOTLE (384-322 B.C.)

<i>Categories</i>	CHAPTER	LINE
<i>Interpretation—On Interpretation</i>		
<i>Prior Analytics</i>	BOOK	CHAPTER LINE
<i>Posterior Analytics</i>		
<i>Topics</i>	CHAPTER	LINE
<i>Sophistical Refutations—On Sophistical Refutations</i>		
<i>Physics</i>		
<i>Heavens—On the Heavens</i>		
<i>Generation and Corruption—On Generation and Corruption</i>	BOOK	CHAPTER LINE
<i>Meteorology</i>		
<i>Metaphysics</i>		
<i>Soul—On the Soul</i>		
<i>Sense and the Sensible—On Sense and the Sensible</i>		
<i>Memory and Reminiscence—On Memory and Reminiscence</i>		
<i>Sleep—On Sleep and Sleeplessness</i>		
<i>Dreams—On Dreams</i>	CHAPTER	LINE
<i>Prophecy—On Prophecy by Dreams</i>		
<i>Longevity and Shortness of Life</i>		
<i>Youth and Old Age—On Youth and Old Age</i>		
<i>Life and Death—On Breathing</i>		

## 9 ARISTOTLE

<i>History of Animals</i>	BOOK	CHAPTER LINE
<i>Parts of Animals—On the Parts of Animals</i>		
<i>Motion of Animals—On the Motion of Animals</i>	CHAPTER	LINE
<i>Generation of Animals—On the Generation of Animals</i>		
<i>Generation of Animals—On the Generation of Animals</i>	BOOK	CHAPTER LINE
<i>Ethics—Nicomachean Ethics</i>		
<i>Politics</i>	CHAPTER, paragraph	
<i>The Athenian Constitution</i>	BOOK	CHAPTER LINE
<i>Rhetoric</i>		
<i>Poetics—On Poetics</i>	CHAPTER	LINE

## 10 HIPPOCRATES (c. 460-370 B.C.)

<i>The Oath</i>		
<i>Ancient Medicine—On Ancient Medicine</i>		
<i>Airs, Waters, Places—On Airs, Waters, and Places</i>	parag	ph
<i>Prognostics—The Book of Prognostics</i>		
<i>Regimen in Acute Diseases—On Regimen in Acute Diseases</i>	parag	ph APPENDIX
<i>Epidemics—Of the Epidemics</i>	BOOK	SECTION paragraph CASE
<i>On the Swellings of the Head—On Swellings of the Head</i>		
<i>Surgery—On Surgery</i>		
<i>Fractures—On Fractures</i>	parag	ph
<i>Articulatio—On the Articulations</i>		
<i>Method of Reductio</i>		

## Volume Number Author and Title

## Author's Divisions Cited

- 10 HIPPOCRATES (continued)  
*Aphorisms*  
*The Law*  
*Ulcers—On Ulcers*  
*Fistulae—On Fistulae*  
*Hemorrhoids—On Hemorrhoids*  
*Sacred Disease—On the Sacred Disease*
- 10 GALEN (c. 130–c. 200 A.D.)  
*Natural Faculties—On the Natural Faculties*
- 11 EUCLID (fl. c. 300 B.C.)  
*Elements—The Thirteen Books of Euclid's Elements*
- 11 ARCHIMEDES (c. 287–212 B.C.)  
*Sphere and Cylinder—On the Sphere and Cylinder*  
*Book I II*  
*Measurement of a Circle*  
*Conoids and Spheroids—On Conoids and Spheroids*  
*Spirals—On Spirals*  
*Equilibrium of Planes—On the Equilibrium of Planes*  
*Books I II*  
*The Sand Reckoner*  
*Quadrature of the Parabola*  
*Floating Bodies—On Floating Bodies*  
*Books I II*  
*Book of Lemmas*  
*Method—The Method Treating of Mechanical Problems*
- 11 APOLLONIUS PERGAEUS (c. 262–c. 200 B.C.)  
*Conics—On Conic Sections*
- 11 NICONIACIUS OF GURSA (fl. c. 100 A.D.)  
*Arithmetic—Introduction to Arithmetic*
- 11 LUCRETIUS (c. 98–c. 55 B.C.)  
*Nature of Things—On the Nature of Things*
- 11 EPICTETUS (c. 60–c. 138 A.D.)  
*The Discourses*
- 12 AURELIUS (MARCUS AURELIUS) (121–180 A.D.)  
*The Meditations*
- 11 VIRGIL (70–19 B.C.)  
*The Eclogues*  
*The Georgics*  
*The Aeneid*
- SECTION : paragraph  
 paragraph  
 BOOK CHAPTER  
 BOOK DEFINITION POSTULATE  
 COMMON NOTION PROPOSITION LEMMA  
 BOOK DEFINITION ASSUMPTION  
 PROPOSITION COROLLARY LEMMA  
 PROPOSITION  
 DEFINITION LEMMA PROPOSITION  
 PROPOSITION DEFINITION  
 BOOK POSTULATE PROPOSITION  
 PROPOSITION DEFINITION  
 BOOK POSTULATE PROPOSITION  
 PROPOSITION  
 BOOK DEFINITION PROPOSITION  
 BOOK  
 BOOK LINE  
 BOOK CHAPTER  
 BOOK SECTION  
 Number of Eclogue Line  
 Number of Georgic Line  
 BOOK LINE

Volume Number Author and Title

Author's Divisions Cued

## 14 PLUTARCH (c 46-c 120 A.D.)

{The Lives of the Noble Greeks and Romans}

Theseus	Cimon
Romulus	Lucullus
Romulus Theseus—Romulus and Theseus Compared	Cimon Lucullus—Cimon and Lucullus Compared
Lycurgus	Nicias
Numa Pompilius	Crassus
Lycurgus Numa—Lycurgus and Numa Compared	Crassus Nicias—Crassus and Nicias Compared
Solon	Sertorius
Poplicola	Eumenes
Poplicola Solon—Poplicola and Solon Compared	Eumenes Sertorius—Eumenes and Sertorius Compared
Themistocles	Agelaus
Camillus	Pompey
Pericles	Agelaus Pompey—Agelaus and Pompey Compared
Fabius	Alexander
Fabius Pericles—Fabius and Pericles Compared	Caesar
Alcibiades	Phocion
Cotyllanus	Cato the Younger
Alcibiades Cotyllanus—Alcibiades and Cotyllanus Compared	Agis
Timoleon	Cleomenes
Aemilius Paulus	Tiberius Gracchus
Aemilius Paulus Timoleon— Aemilius Paulus and Timoleon Compared	Caius Gracchus
Plipidas	Caius and Tiberius Gracchus Agis and Cleomenes—Caius and Tiberius Gracchus and Agis and Cleomenes Compared
Marcellus	Demosthenes
Marcellus Plipidas—Marcellus and Plipidas Compared	Cicero
Aristides	Demosthenes Cicero—Demosthenes and Cicero Compared
Marcus Cato	Demetrius
Aristides Marcus Cato—Aristides and Marcus Cato Compared	Antony
Philoemenus	Antony Demetrius—Antony and Demetrius Compared
Flaminius	Dion
Flaminius Philomenus— Flaminius and Philomenus Compared	Marcus Brutus
Pyrrhus	Brutus Dion—Brutus and Dion Compared
Cicero	Antony
Lysander	Antony
Silla	Galba
Lysander Sulla—Lysander and Sulla Compared	Otho



Volume Number	Author and Title	Author's Divisions Cited
I	TACITUS P. CORNELIUS (c. 55-c. 117 A.D.) <i>The Annals</i>	<i>The Histories</i> BOOK
16	PTOLEMY (c. 100-c. 150 A.D.) <i>The Almagest</i>	BOOK
16	COPERNICUS NICOLAUS (1473-1543) <i>Revolutions of the Heavenly Spheres—On the Revolutions of the Heavenly Spheres</i>	BOOK
18	KEPLER JOHANNES (1571-1630) <i>Epitome—Epitome of Copernican Astronomy IV and V</i> <i>The Harmonies of the World V</i>	BOOK
17	PLOTINUS (205-270) <i>First Sixth Ennead—The Six Enneads</i>	TRACTATE CHAPTER
18	AUGUSTINE SAINT (354-430) <i>The Confessions</i> <i>The City of God</i> <i>Christian Doctrine—On Christian Doctrine</i>	BOOK paragraph BOOK PREFACE CHAPTER PREFACE BOOK CHAPTER
19	AQUINAS SAINT THOMAS (c. 1225-1274) <i>The Summa Theologiae First Part</i> Part I of the Second Part Questions 1-48	PROLOGUE PART QUESTION ARTICLE ANSWER CONTRARY REPLY
20	AQUINAS SAINT THOMAS <i>The Summa Theologiae Part I of the Second Part (continued) Questions 49-114 Part II of the Second Part Questions 1-16 179-189 Third Part Questions 1-26 60-65 Supplement to the Third Part Questions 69-99</i>	PROLOGUE PART QUESTION ARTICLE ANSWER CONTRARY REPLY
21	DANTE ALIGHIERI (c. 1265-1321) <i>The Divine Comedy HELL PURGATORY PARADISE</i>	Number of Canto Line
22	CHAUCER GEOFFREY (c. 1340-1400) <i>Troilus and Criseida</i> <i>[The Canterbury Tales I]</i> <i>The Prologue</i> <i>The Knight's Tale</i> <i>The Miller's Prologue</i> <i>The Miller's Tale</i> <i>The Reeve's Prologue</i> <i>The Reeve's Tale</i> <i>The Cook's Prologue</i> <i>The Cook's Tale</i> <i>Introduction to the Man of Law's Prologue</i> <i>The Prologue of the Man of Law's Tale</i>	BOOK STANZA Line except prose parts (see below) <i>The Tale of the Man of Law</i> <i>The Wife of Bath's Prologue</i> <i>The Tale of the Wife of Bath</i> <i>The Friar's Prologue</i> <i>The Summoner's Prologue</i> <i>The Summoner's Tale</i> <i>The Clerk's Prologue</i> <i>The Clerk's Tale</i> <i>The Merchant's Prologue</i> <i>The Merchant's Tale</i> <i>Epilogue to the Merchant's Tale</i>

Volume Number Author and Title

Author's Divisions Cited

## 22 CHALCER GEOPFREY (continued)

[The Canterbury Tales]

The Squire's Tale  
 The Words of the Franklyn  
 The Franklyn's Prologue  
 The Franklyn's Tale  
 The Physician's Tale  
 The Words of the Host  
 The Prologue of the Pardoner's Tale  
 The Pardoner's Tale  
 The Shipman's Prologue  
 The Shipman's Tale  
 The Prioress's Prologue  
 The Prioress's Tale  
 Prologue to Sir Thopas  
 Sir Thopas  
 Prologue to Melibee

The Tale of Melibee  
 The Monk's Prologue  
 The Monk's Tale  
 The Prologue of the Nun's Priest's Tale  
 The Nun's Priest's Tale  
 Epilogue to the Nun's Priest's Tale  
 The Second Nun's Prologue  
 The Second Nun's Tale  
 The Canon's Yeoman's Prologue  
 The Canon's Yeoman's Tale  
 The Manciple's Prologue  
 The Manciple's Tale  
 The Parson's Prologue  
 The Parson's Tale  
 L'Envoy

paragraph

paragraph

## 23 MACCIVELLI NICOLA (1469-1527)

The Prince

CHAPTER

## 23 HOBBS THOMAS (1588-1633)

— Leviathan—Leviathan or Matter Form and Power  
 of a Commonwealth Ecclesiastical and Civil

INTRODUCTION PART CONCLUSION

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## Chapter 51 MAN

### INTRODUCTION

WHETHER or not the proper study of mankind is man it is the only study in which the knower and the known are one in which the object of the science is the nature of the scientist. If we consider every effort men have made in response to the ancient injunction know thyself then psychology has perhaps a longer tradition than any other science. But by a stricter conception of science more is required than individual insight or self-consciousness. Definitions principles analyses applicable to all men must be established and it has been questioned whether the method of introspection suffices for this purpose. What methods should be used by the psychologist depends in part upon the precise object and scope of his inquiry. According as different subject matters and different methods define psychology there seem to be several disciplines bearing that name each with its own tradition in western thought.

In one conception psychology begins with the dialogues of Plato and with Aristotle's treatise *On the Soul*. As Aristotle's title indicates and as the Greek roots of the word psychology connote the soul rather than man is the object of the science. Anthropology Kant later suggests would be a more appropriate name for the science of man. The Greek inquiry into the soul extends beyond man to all living things. It is because the soul is in some sense the principle of animal life Aristotle writes that the knowledge of the soul admittedly contributes greatly to the advance of truth in general and above all to our understanding of Nature.

Nevertheless psychology for the Greeks is principally concerned with the study of man. The analysis of the parts or faculties of the human soul is an analysis of the properties of human nature—the powers which man has and the characteristically human acts or functions he

can perform. The methods by which this analysis is developed are for the most part the same methods which the Greek philosophers use in physics. The study of the soul Aristotle writes falls within the science of Nature. The definitions of the psychologist like those of the physicist give a certain mode of movement of such and such a body (or part or faculty of a body) by this or that cause and for this or that end. In the case of the human soul however the psychologist can employ a method not applicable to other things. The human intellect is able to examine itself. Mind can thus know things about mind which are not otherwise observable.

The subject matter of psychology narrows somewhat when at a later moment in the tradition the study of mind tends to replace the study of man. This narrowing takes place gradually. Though Descartes identifies soul with mind or intellect he treats of the passions and the will as well as thought and knowledge. Differing from Descartes with regard to body and soul Hobbes and Spinoza also give as much attention to the emotions as to ideas and reasoning. But with Locke Berkeley and Hume there is an increasing tendency to analyze the contents of consciousness and the acts of the understanding treated exclusively as a faculty of thinking or knowing. Where in the earlier tradition the observation of human behavior and the behavior of other animals appears to be useful in psychology here the main source of psychological knowledge seems to be introspection.

The *Principles of Psychology* by James and the writings of Freud represent a return to the broader conception of the science. According to James it is better to let the science be as vague as its subject if by so doing we can throw any light on the main business in hand.



boasts may be found in an incipient or even sometimes in a well developed condition in the lower animals. They are also capable of some inherited improvement as we see in the domestic dog compared with the wolf or jackal. If it could be proved that certain high mental powers such as the formation of general concepts, self-consciousness etc. were absolutely peculiar to man which seems extremely doubtful it is not improbable that these qualities are merely the incidental results of other highly advanced intellectual faculties and these again mainly the result of the continued use of a perfect language. Such a view clearly takes the position that man varies from other animals in the same way that one species of animal varies from another.

Those who take the opposite position do not always agree on the precise nature of the difference in kind. For the most part they attribute rationality to man alone and use the word brute to signify that all other animals totally lack reason no matter how acute their intelligence or the apparent sagacity of their instinctive reactions. Milton for example in common with many others describes man as

a creature who not pure one  
And brute as other creatures but endued  
With sanctity of reason might erect  
His stature and upright with front serene  
Gave in the rest self knowledge and from thence  
Magnanimous to correspond with heaven

Those who find a difference in kind between man and other animals also tend to think that human society and human language are essentially different from the beehive or the ant mound from bird calls jungle cries or parrotting because they are the work or expression of reason. Unlike Darwin some of them find in human speech not the cause of man's apparent difference in kind from other animals but the consequence of his real difference in kind—his distinctive rationality. The fact that man does certain things that no other animal does at all means to them that man possesses certain powers which no other animal shares to any degree even the slightest. They would therefore interpret Darwin's admission that an anthropoid ape could not fashion a stone into a tool or follow a train of metaphysical reasoning or solve a mathematical problem or reflect on God or

admire a grand natural scene as an indication that the ape totally lacked human reason or intellect however acute his animal intelligence. But the writers who agree that man is radically different from the brutes do not all agree in the account they give of human reason nor do they all affirm free will as the natural accompaniment of rationality.

Locke for example begins his essay on *Human Understanding* with the remark that the understanding sets man above the rest of sensible beings. Men and other animals alike have the powers of sense memory and imagination but he says brutes abstract not. The power of abstracting is not at all in them. This power of having general ideas is that which puts a perfect distinction between man and brutes and is an excellency which the faculties of brutes do by no means attain to. But Locke denies that man has free will in the sense of a free choice among alternatives. Rousseau on the other hand declares that every animal has ideas and it is only in degree that man differs in this respect from the brute. It is not therefore so much the understanding that constitutes the specific difference between the man and the brute as the human quality of free agency and it is particularly in his consciousness of this liberty that the spirituality of his soul is displayed.

James agrees with Locke that it is probable that brutes neither attend to abstract characters nor have associations by similarity but it is the latter fact which James himself makes the principal distinction between man and brute.

We may he asserts consider it proven that the most elementary single difference between the human mind and that of brutes lies in this deficiency on the brute's part to associate ideas by similarity. James enumerates other classical *differentiae* of man besides that of being the only reasoning animal. Man has been called he says the laughing animal and the talking animal but these distinctive traits like human reasoning James regards as consequences of his unrivalled powers to associate ideas by similarity.

Reason and speech are for James the effects where for Adam Smith they are the cause of man's peculiarly human attributes. The propensity to truck barter and exchange one

thing for another. Smith writes a common to all men and to be found in no other race of animals. This seems to him to be a necessary consequence of the faculties of reason and speech which are peculiar to man. Hobbes as we shall see presently takes still another position since he explains man's reasoning power in terms of his faculty of speech, a faculty which is possessed by no other animal.

Despite all these variations in theory or explanation writers like Locke, Rousseau, James, Smith, and perhaps Hobbes seem to agree that man and brute differ in kind. On that point they agree even with writers like Plato, Aristotle, Augustine, Aquinas, Descartes, Spinoza, Kant, and Hegel who hold as they most definitely do not that man has a special faculty of mind, reason, or intellect. The contradictory position is, therefore, not to be found in the denial of some particular theory of reason, but rather in the denial that any faculty or attribute which man possesses warrants our calling him rational and other animals brute.

THE ISSUE is sharply drawn between these contradictory positions. Yet it is avoided by those who go no further than to see in human civilization certain distinctive features such as the arts and sciences, or law, government, and religion. Mill, for example, discussing the sentiment of justice, finds its root in the natural impulse to resent and to repel or retaliate any harm done or attempted against ourselves or against those with whom we sympathize, common to all animal nature. Man differs from other animals, he writes, first in being capable of sympathizing not solely with their offspring or like some of the more noble animals with some superior animal who is kind to them, but with all human and even with all sentient beings. Secondly, in having a more developed intelligence which gives a wider range to the whole of their sentiments, whether self-regarding or sympathetic. By virtue of his superior intelligence, even apart from his superior range of sympathy, a human being is capable of apprehending a community of interest between himself and the human society of which he forms a part.

A view of this sort would seem to leave open the question whether such typically human de-

velopments signify the possession by man of special powers which set him apart as *different in kind*. While admitting extraordinary differences between the behavior or accomplishments of men and other animals, this view does not reject the possibility that such accomplishments may represent merely wide differences in degree of power which give the appearance of differences in kind.

As we have already observed, the issue about man and brute cannot be separated from the controversy about the so-called higher faculties of man. Except for the view that man is a purely spiritual being who merely inhabits or uses a physical body, no theory of human nature doubts that man as a living organism possesses in common with plants and animals certain bodily powers or functions. The vegetative functions which Galen calls the natural faculties are indispensable to human as to all other forms of corporeal life. Similarly, the powers of sensitivity and appetite or desire are obviously present in man as in other animals. To the observer who sees only the externals of human and animal behavior, men and the higher animals appear to react to the physical stimulation of their sense organs with a similar repertoire of bodily movements which vary only as their skeletal structure and their organs of locomotion differ. They also manifest outward signs of inner emotional disturbance sufficiently similar to warrant treating emotions like fear and rage as common to men and other animals.

On all this there seems to be little dispute in the tradition of the great books. But difficult questions arise when the inner significance of these external movements is considered. Both men and animals have the familiar sense organs and such powers as touch, taste, smell, hearing, and vision. But do sensations give rise to knowledge in the same way for both men and animals? Do the powers of memory and imagination extend an animal's range of apprehension as they do man's? Do these powers affect the perception of present objects in the same way for men and animals?

Such questions are not readily answered by observation of external behavior alone. What seems to be called for—a comparison of human and animal experience—cannot be obtained. The difficulty of the problem becomes most in-

tense when a special faculty of knowledge or thought is attributed to man for animal and human sense perception, imagination or even emotion may be incommensurable if a special factor of understanding or reason enters into all human experience and is totally absent from that of animals

In the ancient and mediaeval periods the sensitive faculty including the interior sensitive powers of memory and imagination is generally distinguished from another faculty variously called intellect, reason or mind. Writers like Plato, Aristotle, Plotinus, Lucretius, Augustine, and Aquinas have different conceptions of intellect or mind in itself and in its relation to sense and imagination, but they do not question its existence as a separate faculty. The range of the sensitive powers does not extend to ideas or intelligible objects, nor is sensitive memory or imagination for them the same as rational thought.

Not only does it seem unquestionable in the ancient and mediaeval tradition that man has these two distinct faculties of knowledge, but it is generally assumed that other animals have to a greater or less degree the power of the senses alone. Only men can understand as well as perceive; only men can know the universal as well as the particular; only men can think about objects which are neither sensible nor strictly imaginable—objects such as atoms and God, the infinite and the eternal, or the intellect itself. The affirmation of an essential difference between reason and sense seems to be inseparable from the affirmation of an essential difference between men and brutes.

DOUBTS OR DENIALS with regard to both affirmations achieve considerable prevalence in modern times. But though the two affirmations appear inseparable, they are not always denied together. Montaigne, for example, does not so much doubt that men have reason as he does that other animals lack it. He considers the matter in the light of external evidences in terms of the comparable performances of men and animals. The light of reason seems to shine in both.

He repeats many stories from Plutarch and Pliny which supposedly reveal the comparable mentality of animals and men. One is the story

of the hound who following the scent comes to a triple parting of the ways. After sniffing along the first and second paths and discovering no trace of the scent, the hound without a moment's hesitation or sniffing takes up the pursuit along the third trail. Thus Montaigne suggests a kind of syllogizing as if the dog reasoned thus with himself: I have followed my master by foot to this place; he must of necessity be gone by one of these three ways; he is not gone this way nor that; he must then infallibly be gone this other.

It is noteworthy that Aquinas tells exactly the same story in order to make the point that such appearances of reasoning in animals can be explained as instinctively determined conduct.

In the works of irrational animals, he writes, we notice certain marks of sagacity in so far as they have a natural inclination to set about their actions in a most orderly manner through being ordained by the supreme art. For which reason too certain animals are called prudent or sagacious, and not because they reason or exercise any choice about things. That such behavior is not the work of reason, he claims, is clear from the fact that all that share in one nature invariably act in the same way.

Unlike Montaigne, Machiavelli seems to imply that men and brutes are alike not in having reason, but in lacking it. The passions control behavior. Intelligence exhibits itself largely as craft or cunning in gaining ends set by the passions. Man is no less the brute in essence because in the jungle of society he often succeeds by cunning rather than by force. He may have more cunning than the fox, but without armor he also has less strength than the lion. The prince Machiavelli remarks, being compelled knowingly to adopt the beast, ought to choose the lion and the fox, because the lion cannot defend himself against snares and the fox can not defend himself against wolves.

For the most part, however, the modern dissent from the ancient and mediaeval view takes the form of denying that reason and sense are distinct powers. In its most characteristic expression, this denial is accompanied by a denial of abstract ideas as in the writings of Hobbes, Berkeley, and Hume. Their position discussed more fully in the chapter on UNIVERSAL AND PARTICULAR is that men only give it

ance of having abstract or general ideas because they employ common names which have general significance

Language according to Hobbes is the root of all other differences between man and brute. Sense and imagination are common to man and beast. Reasoning or the train of thoughts can take place in any animal which has memory and imagination. But that type of understanding which Hobbes describes as 'conception caused by speech' is peculiar to man. His statement that 'by the help of speech and method the same faculties which belong to both men and beasts may be improved to such a height as to distinguish men from all other living creatures' would seem to imply that Hobbes regards man as superior to other animals only in degree. Yet on the other hand he enumerates a variety of institutions peculiar to human life such as religion, law, and science which imply a difference in kind.

Like Hobbes, Berkeley thinks that men use general names but do not have general or abstract ideas. But he seems much less willing than Hobbes to assert man's clear superiority even on the basis of man's attainments through the power of speech. If the fact that brutes abstract not, he says in reply to Locke, be made the distinguishing property of that sort of animals, I fear a great many of those that pass for men must be reckoned into their number. Hume goes further than either Berkeley or Hobbes. Agreeing with them that man has no faculty above sense and imagination, and hence no faculty which animals do not also possess, he alone explicitly draws the conclusion which that implies.

Animals as well as men, he writes, learn many things from experience and infer that the same events will always follow from the same causes. Such inferences in animals or men are not founded on any process of argument or reasoning. They are the result of the operation of custom and instinct. Were this doubtful with regard to men, it seems to admit of no question with regard to the brute creation, and the conclusion being once firmly established in the one, we have a strong presumption from all the rules of analogy that it ought to be universally admitted without any exception or reservation.

But if custom and instinct underlie the appearance of reasoning in both men and animals, it may be asked, says Hume, how it happens that men so much surpass animals in reasoning, and one man so much surpasses another? His answer seems to be entirely in terms of degree of the same factors. The same sort of difference which obtains between a superior and an inferior intelligence among men obtains between men and other animals.

All the evidence which Darwin later assembles on the characteristics of human mentality is offered by him in proof of the same point. But to those who think that man alone has an intellect or a rational faculty over and above all his sensitive powers, such evidence remains inconclusive. As in the case of the dog whose behavior Aquinas and Montaigne interpret differently, the same observed facts seem to be capable of quite opposite explanation by those who hold opposite theories of human and animal intelligence.

Is THERE INTERNAL evidence obtained from man's introspective experience of his own thought which can resolve the controversy? As Descartes sees it, the interpretation of such evidence also seems to depend on the prior assumption one makes about the sameness or difference of men and brutes.

We cannot help at every moment experiencing within us that we think, he writes, nor can anyone infer from the fact that it has been shown that the animate brutes can discharge all these operations entirely without thought that he therefore does not think, unless it be that having previously persuaded himself that his actions are entirely like those of the brutes just because he has ascribed thought to them, he were to adhere so pertinaciously to these very words, *men and brutes operate in the same way*, that when it was shown to him that the brutes did not think, he preferred to divest himself of that thought of his of which he could not fail to have an inner consciousness, rather than to alter his opinion that he acted in the same way as the brutes.

On the other hand, Descartes continues, those who hold that thought is not to be distinguished from bodily motion will with much better reason conclude that it is the same thing in us and

in them since they notice in them all corporeal movements as in us they will add that a difference merely of greater and less makes no difference to the essence and will infer that though per chance they think that there is less reason in the beasts than in us our minds are of exactly the same species

THE issue concerning the senses and the reason is more fully discussed in the chapters on MIND and SENSE and also in the chapters on IDEA and UNIVERSAL AND PARTICULAR where the problem of abstract ideas or universal notions is considered. The issue concerning soul in general and the human soul in particular belongs primarily to the chapter on SOUL and also to the chapter on MIND. But like the issue about sense and intellect its bearing on the problem of man's nature deserves brief comment here.

The question is not whether man has a soul but whether only man has a soul a rational soul a soul which is in whole or in part immaterial a soul capable of separate existence from the body an immortal soul. If soul is conceived as the principle of life in all living organisms—■ Aristotle conceives it—then having a soul does not distinguish man from plants or animals. If furthermore the rational soul ■ distinguished from the sensitive and vegetative soul in the same way that men are distinguished from brute animals and plants namely by reference to certain powers such as intellect and will then the statement that men alone have rational souls would seem to add nothing to the statement that men alone are rational.

But if the human soul through being rational confers a mode of immaterial or spiritual being upon man then man's possession of such a soul sets him apart from all other physical things even further than the special power of reason separate him from the brutes. The position of Lucretius illustrates this distinction in reverse. He does not deny that man has a soul. Unlike other living things which also have souls man's soul includes a special part which Lucretius calls mind. He describes it as the part which we often call the understanding in which dwells the directing and governing principle of life [and] is no less part of the

man than hand and foot and eyes are parts of the whole living creature

So far as his having this special faculty is concerned man is set apart. But for Lucretius nothing exists except atoms and void. Consequently the nature of the mind and soul is bodily consisting of seeds exceedingly round and exceedingly minute in order to be stirred and set in motion by a small moving power. In his physical constitution man does not differ in any fundamental respect from any other composite thing. The materiality of his soul furthermore means that it is as perishable as any composite body.

At the other extreme from Lucretius Descartes conceives man as a union of two substances. I possess a body he writes with which I am very intimately conjoined yet because on the one side I have a clear and distinct idea of myself inasmuch as I am only a thinking and unextended thing and as on the other I possess a distinct idea of body as it is only an extended and unthinking thing it is certain that this I (that is to say my soul by which I am what I am) is entirely and absolutely distinct from my body and can exist without it. Nevertheless sensations of pain hunger thirst etc lead Descartes to add I am not only lodged in my body as a pilot in a vessel but I am very closely united to it and so to speak so intermingled with it that I seem to compose with it one whole.

Only man has a dual nature thus compounded. Other living things Descartes seems to hold are merely bodies having the structure and operation of complex machines. If like the automata or moving machines made by the industry of man there were such machines possessing the organs and outward form of a monkey or some other animal without reason we should not have any means of ascertaining that they were not of the same nature as those animals.

It is indifferent to Descartes whether other animals are conceived as automata or whether because they have life sensation and imagination they are granted souls. I have neither denied to the brutes he writes what is vulgarly called life nor a corporeal soul or organic sense. What he has denied is thought and it is this one factor which makes it impossible for a



machine to imitate human speech and action. It is this one factor which also requires man's soul unlike that of the brute to be an incorporeal substance.

Unlike sensations and passions acts of thought and will according to Descartes cannot be functions of bodily organs. Even though I were to grant he says that thought existed in dogs and apes it would in no wise follow that the human mind was not to be distinguished from the body but on the contrary rather that in other animals also there was a mind distinct from their body. When Descartes affirms man's uniqueness he is therefore affirming more than that man alone has reason and free will. He is affirming that of all things man alone is formed of body and soul—not a corporeal soul but a spiritual substance. The angels in contrast are simply spirits.

The remark of Plotinus that humanity is poised midway between the gods and the beasts applies with somewhat altered significance to the Cartesian view. But there are other conceptions of the human constitution which though they preserve the sense of man's dual nature do not make him a union of two separate substances.

Spinoza for example gives man special status in the order of nature by conferring on him alone participation in the divine mind. The human mind he writes is a part of the infinite intellect of God. The human body on the other hand is a mode which expresses in a certain and determinate manner the essence of God in so far as He is considered as the thing extended. Man is thus composed of mind and body but for Spinoza this duality in human nature is a duality of aspects not a duality of substances.

There is still another way in which a certain immateriality is attributed to man. In Aristotle's theory the soul is not a substance in its own right but the substantial form of an organic body. This is true of all kinds of souls—whether of plants animals or men. But when Aristotle enumerates the various powers which living things possess—such as the nutritive the appetitive the sensory the locomotive and the power of thinking—he assigns to man alone or possibly another order like man or superior to him the power of thinking *i.e.* mind. Fur-

thermore of all the parts or powers of the soul thinking seems to Aristotle to afford the most probable exception to the rule that all the affections of soul involve body.

Apart from thinking there seems to be no case he says in which the soul can act or be acted upon without involving body. Whereas the sensitive powers are seated in bodily organs and cannot act except as bodily functions the intellect is immaterial. It has no bodily organ which is comparable to the eye as the organ of vision and the brain as the organ of memory and imagination. The act of understanding is not a function of physical matter.

According to this theory man as a whole is a single substance composite of correlative principles of being—matter and form or body and soul. But man differs from all other physical substances which are similarly composite in that he has a faculty and mode of activity separate from matter. In the later development of this theory by Aquinas the immateriality of the intellect becomes the basis for arguing that the rational soul of man can exist apart from matter when the composite human substance is disintegrated by death.

As indicated in the chapters on IMMORTALITY and Soul, this is not the only argument for the immortality of the soul. We are not here concerned however with the various arguments and their merits but only with the fact that certain conceptions of man's constitution attribute to man something more than the power of rationality namely the distinction of having a spiritual and immortal life.

HIS FUTURE AND HIS PAST color the present life of man and alter the aspect under which he conceives his place in the general scheme of things. Immortality promises release from mortality as well as salvation from death. With an immortal soul man belongs to eternity as well as to time. He is not merely a transient character in the universe. His stature and his dignity are not the same when man regards himself as completely dissolvable into dust.

The question of man's past or origin is perhaps even more critical in its bearing on man's present status. Ancient poetry and history contain many myths of man's kinship with the gods. The heroes trace their lineage back to the

gods. Through them or through the progenitors of the race man conceives himself as of divine descent or at least as having more affinity with the immortal gods than with all other earthly bound things.

In the *Descent of Man* Darwin paints a different picture of human origin. Two propositions determine its general outlines. The first already stated is that man belongs to the animal kingdom without any differentiation except in degree. Not only in anatomy, physiology, and embryology are there marks of man's affinity with the mammals, man's behavior and mentality also show, according to Darwin, that man possesses no attribute so peculiarly human that some trace of it cannot be found in the higher forms of animal life.

The second proposition is that man's origin on earth has come about by a process of natural variation from an ancestral type, exactly as other new species of plants or animals have originated by descent with variation from a common ancestor. This theory of the origin of species is discussed in the chapter on *EVOLUTION*. Its special application to the human species involves the notion of a common ancestor for both man and the anthropoid apes and the disappearance not only of the ancestral form but of the intermediate varieties—the so-called missing links in the chain of variation.

These two propositions are logically interdependent. If the proposition is false that man differs from other animals only in degree, the proposition cannot be true that man originated along with the anthropoid apes by descent from a common ancestor. Conversely, if the Darwinian theory of man's origin is true, it cannot be true that men and brutes differ in kind. But though the truth of each of these two propositions implies the truth of the other, the problem of the difference between man and other animals has a certain logical priority over the problem of man's origin, simply because more evidence is available to solve it. That question calls for an examination of man as he is today in comparison with other extant species, whereas the other question necessarily requires the collection and interpretation of historical evidence, which may have some bearing on hypothetical missing links.

It should be added that if in regard to the

first question the evidence favored the affirmation of a difference in kind that would not entail the denial of biological evolution, though it would necessarily challenge the Darwinian theory of how such evolution took place. One alternative to the Darwinian hypothesis is the theory of emergent evolution according to which lower forms of life may give rise to new organic forms which are not only higher but are distinct in kind.

Whether or not Christian theology and some theory of biological evolution can be reconciled, there seems to be an inescapable contradiction between Darwin's view of man's origin and the Judeo-Christian conception of man as a special creation, special above all in the sense that God created man in his own image.

As God is in essence a perfect intelligence and a spiritual being, man according to Aquinas is said to be to the image of God by reason of his intellectual nature. In all creatures there is some kind of likeness to God, but it is only in man that that likeness is an image. Man's finitude, imperfection, and corporeal existence make the image a remote resemblance, yet according to the theologians it is precisely that likeness which separates man from all other earthly creatures and places him in the company of the angels.

But man is no more an angel than he is a brute. He is separated from the one by his body as from the other by his reason. Nor does he in the present life have the spiritual existence of a disembodied and immortal soul. So these three negatives in the definition of man—*not* an angel, *not* a brute, *not* a soul—the Christian theologian adds a fourth, drawn from man's past. Man is of the race begotten by Adam, but he does not have the attributes which Adam possessed before the fall.

The dogma of man's fall from grace is discussed in the chapter on *SIN*. Here we are concerned only with its implications for the understanding of man's present nature, not only being deprived of the extraordinary gifts of life and knowledge which Adam lost through disobedience, but as also being wounded in perpetuity by Adam's sin. Weakness, ignorance, malice, and concupiscence, Aquinas declares, are the four wounds inflicted on the whole of human nature as a result of our first parent's

sin Man in the world is not only disoriented from Adam's gifts but with the loss of grace he also suffers, according to Aquinas, a diminution in his natural inclination to virtue.

THERE ARE OTHER divisions in the realm of man but none so radical as that between Eden and the world thereafter. As retold by Plato, the ancient myths of a golden age when men lived under the immediate benevolence of the gods also imply a condition of mankind quite different from the observable reality but they do not imply a decline in human nature itself with the transition from the golden age to the present. The modern distinction between man living in a state of nature and man living in civil society considers only the external circumstances of human life and does not divide man according to two conditions of his soul. Other dichotomies—such as that between prehistoric and historic man or between primitive and civilized man—are even less radical for they deal even more in gradations or degrees of the same external conditions.

These considerations lead us to another phase of man's thinking about man. Where the previous problem was how man differs from everything else in the universe here the question is how man is divided from man. If men are not equal as individuals, to what extent are their individual differences the result of the unequal endowment of the natures with which they are born and to what extent are they the result of individual acquirement in the course of life?

The range of human differences whether innate or acquired may itself become the basis for a division of men into the normal and the abnormal, a division which separates the feebleminded and the insane from the competent and sane. From a moral and political point of view this is perhaps the most fundamental of all classifications. It must be admitted however that traditionally the problem of the difference between men and women and the problem of the difference between the ages of man from the extreme of infancy to the extreme of senility seem to have exercised more influence on the determination of political status and moral responsibility.

One other differentiation of man from man

seems to have significance for the theory of human society and the history of civilization. That is the division of men into groups, sometimes by reference to physical and mental traits which separate one race from another—whether these traits are supposed to be determined biologically as inheritable racial characteristics or are attributed to environmental influences sometimes by reference to the customs and ideals of a culture. Both sets of criteria appear to be used in the traditional discussion of the opposition between Greek and barbarian, Jew and gentile, European and Asiatic.

THE ULTIMATE questions which man asks about himself are partly answered by the very fact of their being asked. The answer may be that man is the measure of all things; that he is sufficient unto himself or at least sufficient for the station he occupies and the part he plays in the structure of the universe. The answer may be that man is not a god overlooking the rest of nature or even at home in the environment of time and space but rather that he is a finite and dependent creature aware of his insufficiency, a lonely wanderer seeking something greater than himself and this whole world. Whatever answer is given, man's asking what sort of thing he is, whence he comes, and whether he is destined symbolizes the two strains in human nature—man's knowledge and his ignorance, man's greatness and his misery.

Man writes Pascal is a nothing in comparison with the Infinite, an All in comparison with the Nothing, a mean between nothing and everything. Since he is infinitely removed from comprehending the extremes, the end of things and the beginning are hopelessly hidden from him in an impenetrable secret; he is equally incapable of seeing the Nothing from which he was made and the Infinite in which he is swallowed up.

Man, Pascal goes on, must not think that he is on a level either with the brutes or with the angels, nor must he be ignorant of both sides of his nature but he must know both. In recognizing both lies his wretchedness and grandeur. Man knows that he is wretched. He is therefore wretched because he is so but he is really greater because he knows it.

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**PAGE SECT. ONS** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b-164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS** One or more of the main divisions of a work (such as a book or section) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. II d BK II [265 83] 12d.

**BIBLE REFERENCES** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D). Follow e.g. Old Testament *Isaiah* 7 45—(D) II *Ezra* 7 46.

**SYMBOLS** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference. A symbol signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

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- 54 **FREUD** *Group Psychology* 684d 686c e p 686c  
/ *War and Death* 758a / *Civilization and Its  
Discontents* 787a / *Neo Introductory Lectures*  
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- 1a The conception of man as essentially dis-  
tinct or differing in kind from brute  
animals man a specific rationality and  
freedom
- Old Testament *Genesis* 1:20-30 esp 1:26-30  
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- Apocrypha *Ecclesiasticus* 17:1-9 (D) OT *Ec-  
clesiasticus* 17:1-9
- 2 **PLATO** *Protagoras* 44a 45a / *Timaeus* 432d  
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- 8 **ARISTOTLE** *Metaphysics* bk I ch I [980<sup>a</sup> 23  
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644d [415<sup>a</sup> 12] 645b bk III ch 3 [427<sup>b</sup> 14]  
659d 660a [428 20-24] 660c ch 10 [433 8-  
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[453 5 14] 695b
- 9 **ARISTOTLE** *History of Animals* bk VIII ch I  
[588 8-24] 114b d / *Part of Animal* bk I  
c I [641<sup>b</sup> 5-8] 164b c bk IV ch 10 [686 27  
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of Animals* bk II c I 6 [744<sup>a</sup> 27 31] 285c /  
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ch 13 [1102 27 1103 3] 347d 348c bk II c I  
2 [1111<sup>b</sup> 6-12] 357b c bk VIII ch I [1145 15 33]  
395 b ch 3 [1147 25-25] 397c d bk IX ch  
9 [1170<sup>a</sup> 6-18] 423d 424a bk X ch 7 [1177 26-  
1 78<sup>b</sup>] 432c ch 8 [1 78<sup>b</sup> 23 27] 433c / *Politics*  
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- 12 **ARISTOTLE** *Discourses* bk ch 3 108b c  
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2 3d ch 5 228c 229b ch 7 233a b
- 12 **AULIUS** *Mediations* bk II sect 16 259a  
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- 17 **PLATON** *First Ennead* tr I 1a 6b esp ch I  
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Ennead* tr V ch 4-6 323c 325a
- 18 **AUGUSTINE** *Confessions* bk XI c par 2  
213b d par 35 3, 1 0b 1 1a / *City of God*  
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VII ch 6 269 bk VIII c 126-28 336d 338d /  
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- 19 **AQUINAS** *Summa Theologiae* PART I Q 3 A  
1 REP 2 14b-15b Q 13 A 2 REP 1 103c 106b  
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- 83 378a-440b Q 86 A 4 REP 3 463d-464d  
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- 20 **AQUINAS** *Summa Theologiae* PART I II Q 50  
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- 21 **DANTE** *Divine Comedy* HELL, XXVI [112 120]  
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[121 148] 116b-c
- 22 **CHICAGO** *Knights Tale* [1303 1333] 181b  
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- 25 **MONTAIGNE** *Essays* 184b c 215a 232c esp  
216c 219a 231d 232c
- 7 **SHAKESPEARE** *Hamlet* ACT IV SC IV [32 39]  
59a
- 31 **DESCARTES** *Discourse* PART I 41b d PART  
IV 1b-54b *passim* PART V 56a b 59a 60c /  
*Meditations* II 77d 81d esp 78b-c IV 89a 93a  
/ *Objections and Replies* 156a d 209b 226a d  
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- 31 **SPINOZA** *Ethics* PART II AXIO 1 2 373d PART  
III PROP 57 414d-415b P RT IV PROP 35  
SCHOL 433d 434a PROP 37 SCHOL 1 2 434d  
436a *passim*
- 32 **MILTON** *Paradise Lost* bk VII [449-549] 227a  
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- 33 **ASCAL** *Pensées* 140 199a b 339-342 233a  
234 4 8 247a
- 35 **LOCKE** *On Government* ch VI SECT 56-63  
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Understanding* bk I ch XI SECT 10-11 145d  
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223a III bk III ch VI SECT 26-27 274d 276a  
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304c d
- 38 **MONTESQUIEU** *Spirit of Laws* bk I 1d 2b
- 38 **ROUSSEAU** *Inequality* 337d 338c 357c 358b  
/ *Social Contract* bk I 393b c
- 39 **SMITH** *Wealth of Nations* bk I 6d 7b 8a b
- 42 **KANT** *Pure Reason* 164a 165c / *Foundations  
of Metaphysics of Morals* 264d 265a 279b d  
281 282c / *Practical Reason* 291a 293b 316c  
317a / *Prolegomena to a Future Metaphysics* 378b c / *Science of Right* 400b d 402a esp  
401b 402a 420d 421a / *Judgment* I 581d 585c
- 43 **MILL** *Liberty* 294a 297b
- 46 **HUME** *Philosophy of Right* INTRO par 21  
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126a / *Philosophy of History* IN RO 156c  
168b d 178a b 186a PART I 257d 258a  
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- 49 **DARWIN** *Descent of Man* 8 b c 319b-d  
331b 332a



(1 Definitions of man conceptions of the proper ties and qualities of human nature 1a The conception of man as essentially distinct or differing in kind from brute animals man's specific rationality and freedom )

- 51 Tolstoy War and Peace Epilogue II 689c 690a
- 52 Dostoevsky Brothers Karama ov bk v 127b 137c passim

1b The conception of man as distinguished from brutes by such powers or proper ties as abstraction or relational thought language and law art and science

- Old Testament Genesis 2 19-20
- 5 Aeschylus Prometheus Bound [442-506] 44c 45a
- 5 Euripides Suppliants [19 213] 260a b / Trojan Women [665-672] 275d
- 7 Pl to Laches 35b d / Protagoras 44a 45a / Theaetetus 534d 536a esp 535d 536a / Laws bk I 633a c
- 8 Aristotle Topics bk v ch I [128<sup>b</sup> 15 16] 178b ch 3 [132 1-9] 182d [15 17 2] 183a ch 4 [133 15 23] 184b ch 5 [134 8 17] 185b / Metaphysics bk II ch 12 [292<sup>b</sup> 11] 384a / Metaphysics bk I ch 1 [980<sup>b</sup> 25-981<sup>a</sup> 27] 499b d / Soul bk III ch 3 [427<sup>b</sup> 12] 659d 660a [428 20-24] 660 / Memory and Reminiscence ch 2 [453 5 14] 695b
- 9 Aristotle History of Animals bk I ch 1 [488 20-27] 9d bk IV ch 9 [536<sup>b</sup> 1-8] 63a b bk VI 1 ch I [588 18 4] 114b d bk IX ch 1 [608 0-9] 133b d 134a / Parts of Animals bk II ch 10 [656 8-9] 182a ch 16 [659 28] ch 17 [660 3] 186d 187c bk III ch 6 [669 18-20] 197c ch 10 [673 4 10] 201d 202a bk IV ch 10 [686 25-687<sup>a</sup> 5] 217d 219a esp [686 24] 218b [687<sup>a</sup> 4 23] 218c d / Generation of Animals bk II ch III [744 27-31] 285 bk V ch 2 [781<sup>a</sup> 17 23] 323d 324a ch 7 [786<sup>b</sup> 15 2] 328c d / Ethics bk I ch 7 [1097 7 11] 342d 343a bk III ch 2 [1111<sup>b</sup> 6-12] 357b c bk VII ch 1 [1 45 15 35] 395a b ch 3 [1147<sup>a</sup> 25] 397c d bk VIII ch 12 [1161 16-3] 414c bk IX ch 9 [1169<sup>b</sup> 17 19] 423b / Politics bk I ch 2 [1 53 1 39] 44 b d bk VII ch 13 [1332 39-47] 537a b / Rhetoric bk I ch 1 [1355<sup>b</sup> 1 3] 594d / Poetics ch 4 [1448<sup>b</sup> 24] 682c d
- 12 Epictetus Discourses bk I ch 3 108b-c ch 28 134a d bk IV ch II 240d 242d
- 13 Aurelius Meditations bk III sect 16 262d 263a c bk IX sect 9 292b d
- 13 Machiavelli Prince ch XVIII 25a
- 23 Hobbes Leviathan Part 2 52b 53a b 54a 54c 57d 59b-c 63a 79b-d Part II 100a-c
- 25 Montaigne Essays 215b-216b 218a c
- 28 Harvey On Animal Generation 427d-428a
- 30 Bacon Advancement of Learning 20c d / Novum Organum bk II aph 35 163d 164a

- 31 Descartes Discourse Part V 59c 60b / Objections and Replies 226a d
- 32 Milton Paradise Lost bk VIII [369-451] 240a 242a bk IX [549-566] 239b
- 35 Locke Human Understanding Intro Sect 1 93a b bk II ch I sect 4 11 144d 146a esp Sect 10 145d bk III ch I Sect 1 3 251b d 252a ch VI Sect 33 278b c bk IV ch VII Sect 11 361c d ch XVIII Sect 11 384b
- 35 Berkeley Human Knowledge Intro Sect II 407b 408a
- 35 Hume Human Understanding Sect 1 Div 4 452b c
- 38 Rousseau Inequality 341d 349d 350a
- 39 S IITH Wealth of Nations bk I 6d 8b
- 42 Kant Pure Reason 164a 165c 199c 200c / Practical Reason 316c 317a / Pref Metaphysical Elements of Ethics 372a b / Intro Metaphysics of Morals 386b d / Judgement 479a c 602b d [in 1]
- 43 Mill Utilitarianism 418a-449c
- 45 Hegel Philosophy of Right Part III par 211 70a c Additions 26 121a b 121 136c d 157 142b-c / Philosophy of History Intro 168b d
- 49 Darwin Descent of Man 278a 279a 294c 304a esp 294c d 297a 298a 304a 311d 320a b 349d 591d 593c
- 50 Mary Capual 85b c 86b c
- 52 Dostoevsky Brothers Karama ov bk v 122d 123a bk VI 167c d
- 53 J A Le Psychology 83a b 677a 678b 686b esp 678b 683b-684a 684a b 691a b 704a 706b esp 706b 873a
- 54 Freud Interpretation of Dreams 385b c / Unconscious 429c d / General Introduction 616b c / Causation and Its Discontents 778a
- 1c The conception of man as an animal differing only in degree of intelligence and of other qualities possessed by other animals
- 20 Aquinas Summa Theologica Part III suppl 0 79 a 1 Ans 951b-953b
- 23 Hobbes Leviathan Part 1 52b 53a b 53d 54a 59b 64a c 79c Part II 112d 113a Part IV 267a
- 25 Montaigne Essays 207a c 215a 232c esp 215c 219a 231d 232c
- 30 Bacon Novum Organum bk II aph 35 163d 164a
- 32 Milton Paradise Lost bk IX [549-566] 239b
- 35 Locke Human Understanding bk III ch VI Sect 12 271d 272b ch VII Sect 17 295d 296b ch XI Sect 20 304c d bk IV ch XVI Sect 12 370c 371a
- 35 Hume Human Understanding Sect IX 487b-488c
- 38 Rousseau Inequality 334b d 338d 348d 349c
- 42 Kant Pure Reason 199c 200c
- 43 Mill Utilitarianism 448a-449c 469b-d

- 49 DARWIN *Descent of Man* 286a 319d esp 287a b 294c 304a 305c 319b-d 331b 332a 591d 592a
- 51 TOLSTOY *War and Peace* EPILOGUE II 689c 690a
- 53 JAMES *Psychology* 677a 690b
- 54 FREUD *Sexual Enlightenment of Children* 121d 122c

## 2 Man's knowledge of man

### 2a Informed self-consciousness man's intimate or introspective knowledge of himself

- 7 PLATO *Charmides* 7b-c 8b-d / *Phaedrus* 116c-d / *Philebus* 629b
- 8 ARISTOTLE *Soul* BK II CH 4 [429<sup>b</sup>5-9] 661d [429<sup>b</sup>25 29] 662b [430<sup>a</sup>2-9] 662b c
- 9 ARISTOTLE *Ethics* BK IX CH 9 [1170<sup>a</sup>28 b] 424a
- 12 EPICTETUS *Discourses* BK I CH I 105a b CH 27 133a b
- 12 ALBERTUS *Medicinalia* BK XI SECT I 302a b
- 13 AUUSTINE *Confessions* BK I PAR 3 72a PAR 7 73a / *City of God* BK VI CH 26 336d 337b CH 27 337d 338a
- 19 AQUIN *Summa Theologiae* PART I Q 87 A 1 ANS 463b-466c A 2 ANS 466c-467b A 4 ANS 468b-d
- 20 AQUINAS *Summa Theologiae* PART I Q 112 A 5 ANS AND REP I 5 359c 360c
- 21 DANTE *The Comedy* PURGATORY XVIII [49-60] 80b-c
- 23 HOBBS *Leviathan* INTRO 47b-d
- 23 MONTAIGNE *Essays* 6d 7a 69d 70c 177d 181d esp 180b d 253d 254a 319d 320b 322b 323b 388 389c 485c-486a 520b 522a
- 29 CERVANTES *Don Quixote* PART II 332b
- 30 BA CON *Advancement of Learning* 54b-c 88c 89b
- 31 DESCARTES *Discourse* PART IV 51c 52a / *Meditations* II 77d 81d / *Objectives* a d *Replies* 207b 224b d 276b-c
- 31 S I CR *Ethics* PART II PROP 19-23 382b-383c
- 33 PASCAL *Pensées* 396 399 240b
- 35 LOCKE *Human Understanding* BK I CH I SECT I § 121a 123a esp SECT 7-8 122c 123 BK IX § CR I-2 138b c CH XIX 175b-176b CH XXI SECT 30 185a-c CH XXIII SECT 5 208c d SECT 32 33 212c 213a CH XXVII § CR 9 222 BK V C I IV, SECT 2-3 349 c
- 35 HUMER *Human Understanding* g SECT DIV 8 454a b SECT VII DIV 51-53 472b-474b
- 38 ROUSSEAU *Emile* 349b-c
- 42 KANT *Pure Reason* 32a-c 55a 56c 99 101b 121 13b / *Practical Reason* 292d [fn 1] 307d 310c / *Judgement* 599d 600d
- 43 MILL *Liberty* 303b c
- 46 HEGEL *Philosophy of Right* INTRO PAR 5 13 PAR 7 14a c PART I P 35 21 b ADDITION § 116d 117a 22 120 d 25 121a /

*Philosophy of History* PART I 257d 258a PART II 278a-c PART III 304a b 310d

47 GOETHE *Faust* PART I [3217 3239] 79a b PART II [II 433 45] 278a b

51 TOLSTOY *War and Peace* EPILOGUE II 688b 689b 693d 694c

52 DOSTOEVSKY *Brother Karamazov* BK XI 341c

53 JAMES *Psychology* 121a b 122b 126a 191a 197a esp 193a 196a 197a 221b 223b-221a 233a b

54 FREUD *Interpretation of Dreams* 383b-c / *Unconscious* 429c-430c / *General Introduction* 451a b 620a / *Ego and Id* 702d 703a

### 2b The sciences of human nature anthropology and psychology, rational and empirical psychology, experimental and clinical psychology

8 ARISTOTLE *Metaphysics* BK VI CH I [1026 5-6] 548a / *Soul* BK I CH I 631a 632d BK II CH 4 [415 14 22] 645b-c

9 ARISTOTLE *Ethics* BK I CH 13 [1102 5 25] 347b-c

25 MONTAIGNE *Essays* 261c 269b passim

30 BACON *Advancement of Learning* 54b-c

35 HUMER *Human Understanding* SECT I 451a 455b passim SECT VIII DIV 65 479b-480a

38 POUSSIEUX *Inequality* 329a 330b

42 KANT *Pure Reason* 1a-4a c esp 1b-d / *Fundamental Metaphysics of Morals* 253b-254b 271a c / *Practical Reason* 291a b 307d 310c / *Introductory Metaphysics of Morals* 388a-c / *Judgement* 599d 600d

46 HEGEL *Philosophy of Right* INTRO PAR 11 15a b

53 JAMES *Psychology* xiiib-xiva 1a-4a 120a 129b

54 FREUD *Unconscious* 431b d / *General Introduction* 451a-453a esp 451b-452a / *Group Psychology* 664a 665a / *New Introductory Lectures* 864a 868d esp 868b = 873c d

### 2b(1) The subject matter and scope of the science of man

8 ARISTOTLE *Soul* BK I CH I 631a 632d

19 AQUIN *Summa Theologiae* PART I § 87 464d-468d

30 BACON *Advancement of Learning* 49d 50b 54b-c

35 LOCKE *Human Understanding* INTRO SECT I 4 93a 94b

35 HUMER *Human Understanding* SECT I 451a 455b

38 ROUSSEAU *Equality* 329 331d

42 KANT *Practical Reason* 291 b / *Introductory Metaphysics of Morals* 388b c / *Judgement* 599d 600d esp 600d

53 JAMES *Psychology* xiiib-xiva 3b-4a 120a 121a 129b 236a 825a [fn 1]

54 FREUD *Unconscious* 428a-429c esp 422b / *General Introduction* 452 454b 467b-d 550a b 606a / *Group Psychology* 664 665b / *New Introductory Lectures* 866a b

(-b) *The sciences of human nature anthropology and psychology rational and empirical psychology experimental and clinical psychology*

## 2b(2) The methods and validity of psychology

- 8 ARISTOTLE *Soul* BK I CH 1 631a 632d BK II CH 4 [415 14 22] 645b c
- 9 ARISTOTLE *Etica* BK I CH 13 [1102 5 25] 34 b-c
- 10 AQUINAS *Summa Theologica* PART I Q 87 464d 468d
- 21 DANTE *Divine Comedy* PURGATORY XVIII [49-69] 80b-c
- 23 HOBBS *Leviathan* INTRO 47b d PART II 163a
- 30 BACON *Advancement of Learning* 49d 50b 54b c
- 33 BERKELEY *Human Knowledge* SECT 145 441d 442a SECT 148 442b d
- 35 HUME *Human Understanding* SECT I DIV 8 454a SECT IX PL 8a 487b c
- 42 KANT *Pure Reason* 55a 56c 121a 123b 126c d / *Practical Reason* 292d [fn 1] 294a SECT 307d 310c / *Judgement* 599d 600d
- 43 FEDERALIST NUMBER 79 234b c
- 52 DOSTOEVSKY *Others* *Karamazov* BK XII 386 387d
- 53 JAMES *Psychology* 17b 18b 56a 66 passim 1 1a 129b esp 126a 129b 146a 165a 235b 236a esp 236b [fn 1] 259a b 822b 825a [fn 1]
- 54 FREUD *Origin and Development of Psychoanalysis* 13c 14a / *Unconscious* 429b c 434c / *General Introduction* 451d-452a 548a 550c esp 550a b 606a b / *Beyond the Pleasure Principle* 639a b 661c 662b / *Ego and Id* 706d 707a

## 2b(3) The relation of psychology to physiology the study of organic factors in human behaviour

- 7 PLATO *Phaedo* 240d 242b / *Timaeus* 474b 475d
- 8 ARISTOTLE *Physics* BK VII CH 3 [246<sup>b</sup> 20-218 3] 330a-d / *Soul* BK I CH 1 [403 2<sup>b</sup> 19] 632a d BK II CH 1 642a 643a CH 9 [421<sup>b</sup> 22 26] 653b BK III CH 4 [429<sup>a</sup> 28-34] 661c d CH 9 [432<sup>a</sup> 26-433 1] 665c / *Sleep* 696a 701d esp CH 1 696a 697c / *Dreams* 702a 706d passim esp CH 2 703a 704d
- 9 ARISTOTLE *Parts of Animals* BK II CH 4 175b 176a CH 7 [653<sup>b</sup> 1-7] 178d 179a BK III CH 6 [669 18 20] 197c BK IV CH 10 [686<sup>a</sup> 22 29] 218b-c / *Motion of Animals* CH 7 [101<sup>b</sup> 13] CH 8 [702<sup>a</sup> 22] 237a c CH II 239a d
- 10 HIPPOCRATES *Sacred Disease* 155d 160d esp 159a-c
- 12 LUCRETIUS *Nature of Things* BK III [94-829] 31b-40c
- 19 AQUINAS *Summa Theologica* PART I Q 75 A 3 REF 3 380c 381b A 4 381b 382a Q 76 A 5 394c 396a Q 84 AA 7-8 449b-451b Q 85 A 7 459c-460b PART I II Q 41 A 1 ANS 798b-d

- 28 HARVEY *Motion of the Heart* 271a II 296d / *Circulation of the Blood* 321d 322a 322c d / *On Animal Generation* 431d 432a
- 30 BACON *Advancement of Learning* 48d 50b
- 31 DESCARTES *Discourse* PART V 60b c PART VI 61c / *Meditations* VI 99d / *Objections and Replies* 207d 208a 209c
- 31 SPINOZA *Ethics* PART II PROP 14 380c PROP 16 17 380d 381d PROP 26 DEMONSTR 384a II PART V PREF 451a 452c PROP 30 462a II
- 38 ROUSSEAU *Inequality* 338a
- 42 KANT *Judgement* 538d 539a
- 51 TOLSTOY *War and Peace* EPILOGUE II 689-690a
- 53 JAMES *Psychology* 2b 4a 7a 9a 56a esp 9a b 52a 53b 66b 71a passim 690f
- 54 FREUD *Interpretation of Dreams* 154c 155a / *Unconscious* 429a II 431c d / *General Introduction* 451d 452a 605b 606b / *Inhibitions Symptom and Anxiety* 721a / *New Introductory Lectures* 872c d

## 2b(4) The place of psychology in the order of sciences the study of man as prerequisite for other studies

- 7 PLATO *Charmides* 7b c 8b d / *Phaedrus* 116c d / *Phaedrus* 240d 242b / *Republic* BK II 316a b BK IV 350a b / *Philebus* 629b II
- 8 ARISTOTLE *Metaphysics* BK VI CH I [1026<sup>a</sup> 5-6] 548a
- 9 ARISTOTLE *Ethics* BK I CH 13 [1102 5-25] 347b-c / *Rhetoric* BK I CH 2 [1356<sup>a</sup> 21 29] 595d
- 23 HOBBS *Leviathan* INTRO 47b d
- 25 MONTAIGNE *Essays* 69d 0c 259a 260b 308c d
- 28 HARVEY *On Animal Generation* 443b
- 31 DESCARTES *Discourse* PART IV 51c 52a / *Meditations* II 77d 81d / *Objections and Replies* 207b
- 33 PASCAL *Pensées* 66 180b 144 146 200b
- 35 LOCKE *Human Understanding* 87d INTRO 93a 9 d
- 35 HUME *Human Understanding* SECT I DIV 7-8 453 454c
- 38 ROUSSEAU *Inequality* 3 9a 340b
- 42 KANT *Pure Reason* 1a 4a c esp 1b-d / *Practical Reason* 307d 310 331a 332d / *Judgement* 511a 512a 599d 600d
- 46 HEGEL *Philosophy of Right* INTRO par 4 1 d 13a par 19 16d 1 a
- 54 FREUD *New Introductory Lectures* 868b-d 874a c 883c d

## 3 The constitution of man

### 3a Man as a unity or conjunction of matter and spirit body and soul extension and thought

- OLD TESTAMENT *Genesis* 2 7  
APOCRYPHA *Wisdom of Solomon* 9 14 15 15 II  
—(D) OT *Book of Wisdom* 9 14 15 15 II  
NEW TESTAMENT *Romans* 7 14 23 8 4 13 / *I Corinthians* 15 36-49

II PLATO *Cratylus* 93b d / *Phaedrus* 124b d / *Phaedo* 231b 234c / *Republic* BK III 338a 339a / *Timaeus* 453b c / *La* s BK V 686d 687c

8 ARISTOTLE *Metaphysics* BK VII CH 10 {103<sup>5</sup>b 13 32} 559a b BK VI 1 CH 3 {1043<sup>2</sup> 29<sup>4</sup> 567d CH 6 569d 570d BK VII CH 10 {1075<sup>b</sup> 34 37} 606d / *Soul* BK I CH 1 {103<sup>2</sup> 19} 632a d CH 5 {1101<sup>10</sup>-16} 640c {111<sup>5</sup> 18} 641 d BK II CH 1 2 642a 644c

9 ARISTOTLE *Politics* BK I CH 5 {1274 33 37} 448a

10 LUCR TIUS *Nature of Things* BK III {94 176} 31b-32b {3 395} 34d 35a

11 EPICTETUS *Discourses* BK I CH 3 108b-c BK IV CH II 240d 241b

12 AURELIUS *Meditations* BK IV SECT 21 265b c BK VII SECT 55 283b-c BK IX SECT 8 292b BK X SECT 30 310a b

14 PLUTARCH *Romulus* 29a B

17 PLOTINUS *First Ennead* TR I 1 6b / *Second Ennead* TR I CH 5 37c / *Fifth Ennead* TR II CH 19-23 151d 154b esp CH 20 152b 153a TR VII II 191c d CH 8 197c 198b / *Sixth Ennead* TR VII CH 4-6 323c 325a

18 AUUSTINE *City of God* BK V CH II 216c BK IV CH 8 17 289d 295c passim BK X CH 20 316d 318b K X II CH 16 367a d CH 19 369 370c K XIV CH 2 3 377a 378d H 5 379c 380b

19 AQUINAS *Summa Theologiae* II II Q 8 A 1 X 34d 35c A 2 R 2 35 36b QQ 75-76 378a 399b Q 118 A 4 NS nd R 2 601c 603b A 3 NS 603b 604b Q 119 A 1 NS 604c 607b PART II Q 4, A 5 REP 2 632c 634b Q 17 A 4 NS and REP 3 688d 689c

20 AQUINAS *Summa Theologiae* PART III, Q 2 A 1 NS and R P 2 710a 711c A 5 715a 716b Q 17 A 2 RE 4 808d 809d PART III SUPPL, Q 79 A 1-Q 8 A 2 951b 958b

21 DANTE *Divine Comedy* PURGATORY XXV {34 78} 91d 92

25 MONTAIGNE *Essays* 311a b 432b d 538a 543 c

30 BACON *Advancement of Learning* 48d 49c

31 DESCARTES *Discourse* II 51d 52 PART V 60b c / *Meditations* II 77d 81d v 98 99 99d 100a / *Objections and Replies* 119d 120a II VI v 130c d DEF x 130d AO IV 133 135d 136b 152b d 156a 170b-c 207d 208a 209c 224d 225d 231a 232d 248b 276b

31 SENECA *Ethics* II PROP 13 376c PART I PRO 2 396c 398b PART V PR F 451a 452

33 PASCAL P 512 262

35 LOCKE *Human Understanding* BK I CH III CT 4 113b BK I XXVI 6-8 220c 222 esp SE 18 221d 222a s T 5 224b-c ET 21 225d 226 s CT 7 29 227d 228c BK IV CH II ET 6 313 315b passim

35 HUME *Human Understanding* ECT VI DIV 52 472c-473c

36 STERNE *Tristram Shandy* 229b 230a 270b 277a b

37 FIELDING *Tom Jones* 198a-c

42 KANT *Judgement* 557c 558b

46 HEGEL *Philosophy of Right* PART I PR 47 48 24a-c ADDITIONS 2 115d

53 JAMES *Psychology* 1a-4a esp 2b 3a 4a 84a 93b esp 88a 90b 116a 119b 130a 139a 140a 208a II 221a 226a esp 221a 222b 225b 226a

54 FREUD *Interpretation of Dreams* 154c 155a

3a(1) Man as a pure spirit & soul or mind using a body

7 PLATO *Cratylus* 93b d / *Phaedrus* 124b 126c / *Meno* 179d 180b / *Phaedo* 231b-234c 250a d / *Timaeus* 452d-454a

12 EPICTETUS *Discourses* BK I CH II 240d 241a

11 VIRGIL *Aeneid* BK VI {724-751} 230b 231a

17 PLOTINUS *First Ennead* TR I 1a 6b esp CH 5 7 2d-4a / *Second Ennead* TR I CH 5 37c / *Third Ennead* TR IV CH 2 97d 98a / *Fourth Ennead* TR VII CH I 191c d / *Sixth Ennead* TR VII CH 4 6 323c 325a

18 AUGUSTINE *City of God* BK XIII CH 16 367a d CH 19 369 370c

19 AQUINAS *Summa Theologiae* PART I Q 29 A 1 REP 5 162a 163b Q 75 A 4 381b 382a Q 76 A 1 NS 385d 388c A 4 NS 393 394c A 7 NS 396d 397d Q 118 A 4 NS 603b 604b

20 AQUINAS *Summa Theologiae* PART III SUPPL Q 79 A 1 NS and REP 4 951b 953b

31 DESCARTES *Discourse* PART V 51c 52a PART V 60b / *Meditations* II 77d 81d v 98c d / *Objections and Replies* 119d 120a d VI-v 130c d DEF x 130d ROP v 133c 135d 136b 152d 155 156 207d 208a

31 SPINOZA *Ethics* PART III PRO 2 396c 398b PART V REP 451a 452c

35 LOCKE *Human Understanding* K II CH XXVII SECT 6-8 220c 222a esp ECT 8 221d 222 ECT 21 225d 226a s CT 28-29 228a-c

35 BACON *Human Knowledge* s CT 2 413b s CT 89 430b-c SECT 135 142 440a 441c SECT 148 442b d

40 GIBSON *Declaratory and Final* 186a B

46 HEGEL *Philosophy of Right* ART I PR 35 21a b PR 47 24a b ADDITIONS 5 116d 117a 22 120 d 25 121a 8 121b / *Philosophy of History* PART I 310d

48 MILLER *My Deeds* 28 380b 381a

51 TOSTATO *War and Peace* BK VII 295b-c

53 JENSEN *Psychology* 220b 226a

3a(2) Man as purely as limited to his immaterial powers & functions which are soul and will

8 ARISTOTLE *Soul* BK CH 4 {408<sup>b</sup> 18 9} 638 CH 5 {413<sup>b</sup> 18} 641c d BK C 2 {432<sup>a</sup> 29} 643d 644a BK I CH 4-5 661b 662d

19 AQUINAS *Summa Theologiae* TI Q 7 A 2 RE 2 31d 32c Q 29 A 1 R 5 162 163b Q 75 A 2 379c 380c AA 5-6 382 384c Q 76

- (3a) *Man as a unity or conjunction of matter and spirit: body and soul extends on and thought*  
 3a(2) *Man's spiritualty as limited to his immaterial powers or functions such as reason and will*

385c 399b *passim* Q 77 A 5 403d-404c Q 78  
 A I ANS 407b 409 Q 79 413d-427a Q 80 A 2  
 428a d Q 82-83 431d 440b Q 84 A I ANS  
 and REP I 440d 442a A 2 ANS 442b-443c A  
 6 ANS 447c 449a ■ 85 A I ANS 451c 453c  
 Q 86 A I REP 3 461c 462a Q 87 A I REP 3  
 465 466c Q 91 A I ANS and REP I 484a  
 485b Q 96 A 2 511b d Q 98 A I ANS 516d  
 517c Q 118 A 2 ANS 601 603b

- 3b *Comparisons of man with God or the gods or with angels or spiritual substances*

OLD TESTAMENT *Genesis* 1:26-27 5:1 21:96 /  
*Job* 4:16-21 / *Psalms* 8:5—(D) *Psalms* 8:6  
 APOCRYPHA *Wisdom of Solomon* 2:23—(D) OT  
*Book of Wisdom* 2:23

NW TESTAMENT *Matthew* 22:23 30 / *I Corinthians*  
 1:7 / *Hebrews* 2:7 / *James* 3:9 /  
*II Peter* 1:3 4 / *Revelation* 22:8-9—(D) *Apoc-*  
*alyptic* 22:8-9

7 PLATO *Potagoras* 44a 45a / *Republic* BK VI  
 382 / *Timaeus* 476a B

9 ARISTOTLE *Physics* of *Animals* BK IV CH 10  
 [686 27 33] 217d 218a

10 H1 PROCRATES *Sacred Disease* 155 d

12 E1CT TUS *Discourses* BK I ■ 3 108b c  
 CH 12 119b 120a CH 14 120d 121c BK II  
 CH 16 158b d

18 AUGUSTIN *Confessions* A VI par 4 36a b  
 BK VII par 10 103c d K X II par 32 119a b  
 / *City of God* K VIII CH 25 283b-c BK IX  
 CH 8 17 289d 295c BK XII CH 21 357a b  
 CH 23 357d 358a K XIII CH 1 360a b BK  
 XV CH 6 426c 427a / *Christian Doctrine* BK I  
 CH 22 629b-c 23 630a c H 3 632c 633b  
 CH 33 633d 634b

19 AQUINAS *Summa Theologiae* PART I Q 7 A 2  
 R P 2 31d 32c Q 30 A 2 R P 3 168a 169b  
 Q 47 A 2 ANS 257b 258 Q 50-64 269a 338d  
*passim* Q 75 A 7 384d 38 c Q 93 492 501c  
 Q 96 A 2 511b d Q 106-107 545c 552b *pas-*  
*sim* Q 108 A I ANS 52c 553 A 8 561a 562a  
 Q 112 A I REP 4 571d 573a Q 117 A 2 R P 3  
 597c 598c A 3 ANS 598c 599b Q 118 A 3  
 ANS 603b-604b PART II Q 4 A 5 REP 6  
 632c 634b

20 AQUINAS *Summa Theologiae* PART I Q 50  
 A B 11a 12a PART II Q 6 A 3 RE 2 742a  
 743a

21 D1CTE *Dei Comedies* PAR D SE VII [121  
 148] 116b-c XCVI [13 84] 150b 151a

23 HOBBS *Leviathan* PART II 162c PART III  
 183d 184a

27 SHAKESPEARE *Hamlet* ACT II SC II [314 324]  
 43d

32 MILTON *Paradise Lost* BK II [345 353] 118b-

119a BK IV [358-393] 160a 161a BK V [388  
 450] 183b 185a [469-505] 185b 186a BK VI  
 [320 353] 203a 204a BK X [888-908] 293b  
 294a

33 PASCAL *Pensées* 140 199a ■ 418 243a

35 LOCKE *Human Understanding* BK II CH X  
 SECT ■ 143a c CH XXIII SECT 13 207d 208b  
 BK IV CH III SECT 17 317c SECT 23 320 ■

35 BERKELEY *Human Knowledge* SECT 81  
 428c d

36 STERNE *Tristram Shandy* 394a

42 KANT *Pure Reason* 33a d / *Practical Reason*  
 350c 351b

47 GOETHE *Faust* PART I [482 517] 14a b [602  
 736] 16b 19b *passim* PART II [8094 8097]  
 197a

51 TOLSTOY *War and Peace* BK VII 295b c

53 JAMES *Psychology* 745a

- 3c *Man as an organization of matter or as a  
 collocation of atoms*

7 PLATO *Sophist* 567a 568a / *Laos* BK V 761b

8 ARISTOTLE *Generation and Corruption* BK II  
 CH 6 [334 10 15] 435a / *Soul* BK I CH 2-5  
 633a 641d

10 GALEN *Natural Faculties* BK I CH 12 171d  
 173c

12 LUCRETIVS *Nature of Things* BK II [251 93]  
 18b d BK II [94 869] 31b-41a BK IV [722  
 817] 53d 54d [877-961] 55d 56d

17 PLOTINUS *Third Ennead* TR I CH 3 79b c /  
*Fourth Ennead* TR VI 191c 200c e p c i 4  
 191c 193c CH 8 195b 196a 196c 197c

19 AQUINAS *Summa Theologiae* PART I Q 75  
 A 1 378b 379c Q 84 A 2 ANS 442b 443c  
 A 6 ANS 447 449a

23 HOBBS *Leviathan* INTRO 47a PART I 49a d  
 1 80a b PART IV 251a b

31 DESCARTES *Objections and Replies* 226 d

35 LOCKE *Human Understanding* BK II CH  
 XXV I SECT 21 225d 226a SE T 28 29 228 ■  
 BK IV CH II SE T 6 313c 315b CH V CT 5  
 350 b SECT 10 351b 352a SE T 17 353b c

35 BERKELEY *Human Knowledge* SECT 93 431b  
 s CT 137 440b c SECT 141 441a b

42 KANT *Pure Reason* 126c d / *Judgement* 557c  
 559d 575b 578 578d 582c 599d 600d

46 HEGEL *Philosophy of History* PART I 255d

51 TOLSTOY *War and Peace* EPILOGUE II 689c  
 690

53 JAMES *Psychology* 95a 119b

54 FREUD *An Introductory Lecture* 829a ■

- 4 *The analysis of human nature into its facul-  
 ties powers or functions the id ego  
 and super ego in the structure of the  
 psyche*

7 PLATO *Republic* A IV 350a 353d

8 ARISTOTLE *Soul* K II III 642a 668d

19 AQUINAS *Summa Theologiae* PART I Q 77  
 83 399b-440b

31 DESCARTES *Meditations* VI 96b 103d *passim*

# ■ HANT Judgement 465c 467a 475b d

49 DARWIN *D scent of Man* 287a 302b passim

54 FREUD *General Introduction* 501d 503b

531d 532b / *C / p Psychology* 681a b / *Ego*

and *Id* 701d 708c esp 702c 706d 707d 715a

716c / *Isch b i o n s Symptoms and Anxiety*

721d 722c / *New Introd ctory Lectu* 830a

840a esp 836c 838d

## 4a Man's vegetative powers comparison with similar functions in plants and animals

7 PLATO *Republic* bk v 361c 362a / *Ten tents* 469d-471d

8 ARISTOTLE *General on and Corrupt on* bk i ch 5 417b-420b / *Soul* bk ii ch 2 [413 20-413 643b d ch 4 645b 647b bk iii ch 9 [432<sup>48</sup> 10] 665a ch 12 [434<sup>22</sup> 26] 667a b

9 ARISTOTLE *History of Animals* bk viii c i i [588<sup>23</sup>-589 8] 115b / *General n of Animal*

bk i ch 23 271b d bk ii ch i [735 31 24] 275d 276a ch 4 [409<sup>9</sup>-741<sup>5</sup>] 281c 282a /

*Eih* bk i ch 7 [1097<sup>33</sup> 1098 1] 343b ch 13 [11 2 33 413] 347d 348a

10 GALEN *Natural Faculty* i 167a 215d esp bk i c i 167a b ch 5-8 169b 171a

17 PLOTINUS *Th d Ennead* tr iv c 2 97d 98a / *Fourth Ennead* tr iii ch 19 152a tr iv ch 3 206b

18 AUGUSTINE *Ciry of God*, bk vii ch 23 256b c bk xiv ch 26 395d 396c

19 AQUINAS *Summa Theolog* q 118 a 3 22 3106b 107c q 76 a 4 a 43 393a 394c

q 78 a 1 2 407b-410a q 96 a 2 511b-d q 98 516d 519a q 118 a i 609a 601a 2 2 22 2 601c 603b q 119 604c-608d PART I II Q 17 a 8 692a c

20 AQUINAS *Summa Theol* p 1a PART I Q 50 a 3 REP I 8b 9a PART III SUP L Q 80 a 4 a 8d 8e 4-5 959c 963a

21 DANTA *Divine Comedy* PURGATORY xxv [34-84] 91d 92b

24 R BELAIS *Gargantua and Pantagru* i bk iii 143a 144c

28 HARVEY *On An mal Generat n* 427d 428b

30 BACON *Hum Organ m* bk ii ap 27 158a b

31 DE CARTES *Objections and Repl* 207a 244b-c

49 DARWIN *D scent of Man* 256a 257c

54 FREUD *Sexual Enlightenment* f ch id en 121d

4b Man's sensitive and perceptive powers comparison with similar functions in other animals

7 PLATO *Republ* bk ii 319 320 bk iv 351b 353d / *T m* n 466a-467d / *Theocretu*

534d 535b / *Ph lebu* 620b 622b / *Law* bk vii 715b c bk xis 796 b

8 ARISTOTLE *Sul* bk i ch 5 [411<sup>27</sup>-31] 611d bk i ch 4 [413<sup>20</sup>-413] 613b d bk i c i 5 bk i c i 3 647b-661b / *Sense and the Sensi ble* 673a 689a c

9 ARISTOTLE *U story of Animals* bk iv ch 8-10 59d 61b bk viii ch i [588 18-589 10] 114b d 115b bk ix ch i [608 10-619] 133b d

134a / *Pa is of Animals* bk ii ch 1 [660 13]-ch 17 [660 3] 187a / *Mot on of Animals* ch 6-11 235d 239d esp ch 10 238c 239a /

*General on of Animals* bk iii ch 2 [753<sup>7</sup> 16] 294a b / *Eih* bk i ch 7 [1097<sup>33</sup> 1098 20] 343a-c ch 13 [1102<sup>13</sup> 1103 3] 348a c bk iii ch i [1111<sup>21</sup> 43] 357a b ch 2 [1111<sup>47</sup>-9] 357b ch 19 [1118 17 47] 364d 365a bk vi ch 2 [1129 17 21] 387d bk viii ch 3 [114 43-5] 397d / *Pol nct* bk i ch 2 [1253 9 15] 446b c

10 GALEN *Natu al Fac lier* bk i ch i 167a b

12 LUCRETIUS *Nature of Th ng* bk iv [522-721] 51a 53d [1192 1208] 59d 60a

12 EPICTETUS *D course* bk i ch 3 108b-c

12 AURELIUS *M dulations* bk iii sect 16 262d 263a c bk iv sect 9 292b d

17 PLOTINUS *F te Ennead* tr i 1a 6b passim / *Thrd Ennead* tr iv ch 2 97d 98a / *Fou th Ennead* tr iii ch 19 151d 152b tr iv c i 20-21 167d 168c ch 23 25 169c 171b ch 28 172a 173b tr iv ch 3 206a b

18 AUGUSTINE *C of ons* bk v par 12 74a b / *Ciry of God* bk v ch 9 215a bk vii ch 23 256b c

19 AQUINAS *Summa Theol* p 1a PART I Q 75 a 3 a 43 380c 381b q 76 a 3 a 43 391a 393a a 5 a 43 394 396a q 78 a 1 407b-409a a 3 410a-413d qq 80-81 427a 431d q 91 a 3 REP I 3 486b-487d q 96 a 2 511b d PART I II Q 22 a 3 712d 723b

20 AQUINAS *Summa Theolog* a PART I Q 50 a 3 8b 9a PART III Q 3 a 2 REP 2 711d 712d q 13 a 2 a 8 811d 812b PART III SUPPL Q 79 a REP 3 953b 955c

21 DANTA *D me C m d* PURGATORY xxv [34-84] 91d 92b

22 CHALCER *An hi Tale* [3 3 1333] 181b 182a / *Moncipl s Tale* [7 104 144] 490a b

23 HOBBS *Leviathan* PART I 49a 54c 61a c 64a-c PART II 139a 241a b PART IV 267b

24 RABELAIS *Gargantua and Pantagru* i bk i i 192b d

25 MONTAIGNE *E ays* 285c 292d 424d-425c

27 SHAKESPEARE *King Lear* ACT IV SC VI [109 19] 274c 275b

28 HARVEY *On An mal Generat n* 347c d

30 BACON *Hum Organ m* bk i ap 27 157b-c a 14 173c d

31 DESCARTES *Rul xii* 19a 20d / *D scou s* PART V 59a b / *Objections and Repl s* 156a d 415b

31 SPINOZA *Eih c* PART III PRO 57 SCHOL 415b

32 MILTON *Pa ad se Lost* bk v i [369-451] 240a 242a

35 LOCKE *C d Government* ch vii ECT 77-8 42b-43a / *Human Under land ng* bk ii ch v ECT II 15 140b 141a ch x 141b 143d passim ECT II 143 d bk i ECT 4-7 144d 145b

(4) *The analysis of human nature into its faculties powers or functions the id ego and super ego in the structure of the psyche* 46 *Man's sensibility and appetitive powers comparison with similar functions in other animals*)

35 HUME *Human Understanding* SECT IV 487b 488c

36 SWIFT *Gull et* PART IV 147b 148b

38 ROUSSEAU *Inequality* 331a b 337d 338d 348d 349c

42 KANT *Pure Reason* 164b c / *Intro Metaphysic of Morals* 386b d / *Judgement* 479a d

46 HEGEL *Philosophy of Right* ADDITIONS 121 136c d

48 MELVILLE *Moby Dick* 134b 135a 244a 245b 286b 288a 289b 291a

49 DARWIN *Descent of Man* 261c 262 287d 291c 294c 301c 302b 304a 313a 568d 571b

51 TOLSTOY *War and Peace* EPILOGUE II 689c 690a

52 DOSTOEVSKY *Others Karamazov* BK III 54a ■

■ JAIES *Psychology* 49a 50a 198b 199b 702a b 704a 706b 712b 737a

54 FREUD *Origin and Development of Psychoanalysis* 20a d / *Narcissism* 400c-401d / *Instincts* 412a-421a ■ esp 413a 415b / *General Introduction* 569 585a esp 574a d 579b 581c 584b-c / *Beyond the Pleasure Principle* 639a 663d esp 640b c 647a 648a 651d 654c 659d 661c / *Ego and Id* 708c 712a esp 708d 709b / *Inhibitions Symptoms and Anxiety* 720b 721a 737b 738a 752a / *Civilization and Its Discontents* 782a d [in:] 781d 785a / *A New Introduction Lectures* 840a 853b esp 843d 844c 846a 850a 850d 851d

4c *Man's rational powers the problem of similar powers in other animals*

7 PLATO *Laches* 35b ■ / *Republic* BK III 338a 339a BK IV 352b 353d / *Timaeus* 452 454a / *Theaetetus* 535b 536a / *Lysis* BK II 653a-c BK V I 723c d

8 ARISTOTLE *Topics* BK V CH 3 [132 17 22] 183a / *Metaphysics* BK I CH I [980<sup>b</sup>25 27] 499b BK IV CH 2 571c 572a CH 5 573 c CH 7 [1 49 2 12] 574c d / *Soul* ■ I CH 3 [414<sup>b</sup> 20] 644d [415<sup>b</sup> 12] 645b BK III CH 3-8 659c 664d CH I [333 8 13] 665d / *Memory and Reminiscence* CH 2 [453 5 14] 695b

9 ARISTOTLE *History of Animals* BK CH I [488<sup>b</sup>20-27] 9d BK IV CH 9 [536<sup>b</sup>1-8] 63 b BK VIII CH I [585 18 4] 114b d / *Parts of Animals* BK I CH I [641<sup>b</sup>5 10] 164b c BK II CH I 6 [629<sup>b</sup>28]-C I 17 [660 3] 186d 187c BK III CH 6 [669 18 20] 197c CH 10 [673 4 10] 201d 202a BK IV CH 10 [686<sup>b</sup>25-687<sup>b</sup>5] 217d 219a / *Generation of Animals* BK V CH 7 [786 15 22] 328c d / *Ethics* BK I CH 7 [1097<sup>a</sup>23 1 98 20] 343a-c CH 13 [1102<sup>b</sup>13 1103 3] 348a-c BK III CH 2 [1111<sup>b</sup>6-9] 357b BK VI CH I

[1138<sup>b</sup>35]-CH 2 [1139<sup>b</sup>14] 387b 388b BK VII CH 3 [1147<sup>a</sup>2-5] 397d BK IX CH 9 [1170 16-18] 423d-424a BK X CH 7-8 431d-434a *passim* esp CH 7 [1177<sup>b</sup>26 1178 8] 432c CH 8 [1178<sup>b</sup>21-31] 433c / *Politics* BK I CH 2 [1253 7 18] 446b c BK VII CH 13 [1332 39 10] 537a b CH 15 [1334<sup>b</sup>8 28] 539b d / *Rhetoric* BK I CH I [1355<sup>b</sup>1 3] 594d

10 GALEN *Natural Faculties* BK I CH 12 173a-c

12 EPICTETUS *Discourses* BK I CH 6 110c 112b CH 28 134a c BK II CH 8 146a b CH II 150a 151b BK III CH 7 183c 184a BK IV CH 6-7 231d 233b CH 7 234d 235a

12 AURELIUS *Meditations* BK III SECT 16 262d 263a c BK V SECT 16 271c d BK VI SECT 23 276b BK VIII SECT 7 286a SECT 41 288d BK IX SECT 8-9 292b d BK XI SECT I 302a b

17 PLOTINUS *Third Ennead* TR IV CH 2 97d 98a / *Fifth Ennead* TR I CH 10 213d 214a

18 AUGUSTINE *City of God* BK V CH II 216c d BK VII CH 23 256b ■ BK XII CH 23 357d / *Christian Doctrine* BK I CH 8 626c 627a

19 AQUINAS *Summa Theologiae* CA PART I Q 1 RE P 2 14b 15b Q 7 A 2 RE P 2 31d 32c Q 59 A 3 ANS 308b 309 Q 76 A 5 RE P 4 394c 396a Q 78 A 1 ANS 407b-409a A 4 ■ and RE P 4-6 411d 413d Q 79 413d 427a Q 80 A 2 428a d Q 81 A 3 430c-431d QQ 82-89 431d 480c Q 96 A 2 511b d Q 118 A 2 ANS 601c 603b ART I II Q 12 A 5 672a c Q 13 A 2 673c 674c Q 13 A 2 682a c Q 17 A 2 687d 688b

20 AQUINAS *Summa Theologiae* PART II Q 50 A 3 RE 2 8b 9a AA 4-5 9a 10d

21 D NTER *Dull Comedy* PURGATORY XVIII [19-75] 80 -C XXV [34-84] 91d 92b

23 HOBBS *Leviathan* PART I 52b 53a b 54a 57d 59b 63a PART II 100a c

25 MONTAIGNE *Essays* 119b d 184a-c

27 SHAKESPEARE *Hamlet* ACT IV SC IV [32 39] 59a

28 HARVEY *On Animal Generation* 427d-428a

30 BACON *Novum Organum* BK II APH 35 163d 164a

31 D SCARTER *Rules* XII 19a 20d / *Discourse* PART I 41b d PART IV 51d 52a PART V 56a b 59c 60b / *Meditations* 71b d II 7 d 81d / *Objectives and Replies* 156a d 209b c 226a d

31 S INOZA *Ethics* PART I XIOM 2 373d PART II PROP 57 SC IOL 415b

32 MILTON *Paradise Lost* BK VII [499-528] 228a b BK VIII [369 451] 240a 242a BK IX [549-566] 259b

33 PASCAL *Pensees* 339-349 233a 234a 365 236a / *Vacuum* ■ 357a 358a

35 LOCKE *Human Understanding* d g INTRO SECT I 93a b BK I CH I SECT I 95b d 96a CH III SECT II 115b 116a SECT 17 117a c SECT 23 119b 120a SECT 25 120c d BK II CH VI 131b-c CH XI 143d 147b esp SECT 8 II 145b-

- 146a c1 xxi sect 5-6 179c 180a sect 15 16  
181c 182a ch xxvii sect 12 223a b bk iv  
ch xiv sect 3 4 364d 365a ch xvii sect  
1 3 371c 372b
- 35 HUME *Human Understand ng* sect viii div  
6 478b-c
- 38 MONTESQUIEU *Sp of Laws* bk 1 1d 2b
- 39 ROUSSEAU *Inequality* 337d 338c 349b-c /  
*Social Contract* bk 1 393b-c
- 39 SMITH *Wealth of Nations* bk 1 6d 8b
- 41 G ARON *Decline and Fall* 150c
- 42 HANT *Pu e Reason* 164a 165c 199c 200c /  
*Fund Prin Al tophy c of V als* 264d 265a  
271c d 279b 281c 282c 284d 285a / *Practi*  
*c / Reason* 303b-d 316c 317a / *Prof Met*  
*phy cal Element of Eth ci* 372a b / *Judge*  
*ment* 465c-467a esp 466a-c 474b-475d  
479a d 521b 568 575b esp 568c d 570c  
571c 572b-575b 584d 585c 587d 588a  
602b d [in 1]
- 43 HILL *Liberty* 294a 297b
- 46 HEGEL *Ph i phy of Right* ADDITIONS 4-5  
116a 117a 121 136c d / *Ph lo phy of History*  
INTRO 156c 168b d 185a PART 1 257d  
258a PART III 304d 305b
- 49 DARWIN *D s ens of Man* 278a b 287a b  
292a 294c 295c 300a esp 297d 298a 299b  
312a 313a 319c 331b 332a 591d 592a
- 50 MARK *Cap u l* 85a d
- 51 TOLSTOY *Is and P ace* EPILOGUE II 689c  
690a
- 53 JAMES *Psychology* 6 a b 184a 187b esp 186a  
187a 664a 693b esp 664a b 677a 686b 691a  
873a
- 54 JARVIS *Interp etat on of D am* 363b 364b  
367b c 377c 3 9c esp 379a II 384c 385c /  
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692b 693a 759b-760b 795b 797a 798b  
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- 54 FREUD *Origin and Development of Psycho-  
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- 55 The differences between men and women  
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- OLD TESTAMENT *Genesis* 1:26-30 2:18-25  
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- NEW TESTAMENT *I Corinthians* 11:16 14:34  
35 / *Galatians* 3:28 / *Ephesians* 5:32 33  
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- 56 Aeschylus *Seven Against Thebes* [181-202]  
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- 5 EURIPIDES *Medea* [263-266] 214b [401-43]  
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- 57 ARISTOTLES *Politics* 583a 599a c / *Thetis  
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- 6 HESIODUS *Works and Days* 56c bk iv  
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- 7 PLATO *Cratylus* 89d 90a / *Symposium* 157b-  
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- 8 ARISTOTLES *Metaphysics* k x 958a-c
- 9 ARISTOTLES *History of Animals* bk i ch 7  
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/ *Politics* k ch 2 [125-26-9] 445 d  
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- 10 HIPPOCRATES *Aphorisms* SECT VII par 43  
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- 12 LUCRETIUS *Nature of Things* BK V [1350-  
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- 12 EPICUREUS *Discourses* BK I CH 16 122b-c
- 13 VIRGIL *Aeneid* BK IV [527-570] 182b 183a
- 14 PLUTARCH *Lycurgus Numa* 62d 63c
- 15 TACITUS *Annals* BK III 53a b / *Historiae*  
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- 18 AUGUSTINE *Confessions* BK VIII par 47  
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- 19 AQUINAS *Summa Theologiae* P RT I Q 92  
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- 20 AQUINAS *Summa Theologiae* PART III SUPPL.  
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- 22 CHUCEER *Life of B. J. Prologue* 256a  
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- 23 HOBBS *Leviathan* P RT II 109 110a
- 24 RALPH LAKE *Gargantua and Pantagruel* bk III  
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- 25 MONTAIGNE *Essays* 84a h 188c 191c 399c  
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- 26 SHAKESPEARE *3rd Henry VI* ACT I s IV  
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- 27 SHAKESPEARE *Hamlet* ACT III c I [22-57]  
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112] 136 / *All's Well That Ends Well* ACT I  
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- 29 CERVANTES *Don Quixote* P RT I 123 124a
- 30 HENRY OGDEN *Admiration of Learning* 84b
- 32 MILTON *Paradise Lost* k v [288-1-1] 158b-  
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- 35 LOCKE *Elements of Morals* CH VII s CT 8 43b
- 35 HODGKINSON *Upland* g SECT VII DIV  
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- 36 SWIFT *Gulliver's Travels* PART III  
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- 37 FREDERICK *Temple* 30 32 esp 30d 31a  
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38 MONTESQUIEU *Spirit of Laws* bk vii 47c 50d bk xvi 116a c bk xviii 189d 190a bk xxvi 217d 218a

38 ROUSSEAU *Inequality* 346a / *Political Economy* 367d 368a

40 GIBBON *Decline and Fall* 92d 93b

42 KANT *Science of Right* 404d 419c 420a 436d 437c

43 CONSTITUTION OF THE US AMENDMENTS XIX 19d

43 MILL *Liberty* 311a 312a 317c d / *Representative Government* 387d 389b

44 BOSWELL *Johnson* 132a 165b c 312a 312c 391c 392a 537a c

46 HEGEL *Philosophy of Right* PART I: par 165-166 59d 60a ADDITIONS 104 133d 106-107 134a b / *Philosophy of History* PART I 222d

47 GOETHE *Faust* PART I [35 3535] 86a [3978 3985] 97a PART II [9127-9134] 222a

49 DARWIN *Descent of Man* 257 264d 265a 372d 373c 383b 384d 562a 567c esp 566a 567b 584c 585d 588d 589a

51 TOLSTOY *War and Peace* bk i 51d bk iv 184b bk vi 263b 264b bk vii 287a b bk vi 488b bk xii 543b 544a xiv 639a b EPILOGUE: 659b 660d 661b

53 JAMES *Psychology* 691b 692a 720a 887b [in 3]

54 FREUD *Narcissism* 405b 406a / *Ego and Id* 705a 706 707d / *Civilization and Its Discontents* 785a [in 1] / *New Introductory Lectures* 853b 864a esp 854a 855a 862a 863c

6c *The ages of man infancy youth maturity senescence*

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4 HOMER *Iliad* bk xviii [448 499] 165d 166b [566-649] 167a 168a [82 92] 169 bk xxiv 171a 179d esp [349-5 1] 175a 177a

5 AESCHYLUS *Agamemnon* [71-82] 52d

5 SOPHOCLES *Oedipus at Colonus* [1211 1248] 125b c / *Antigone* [631 767] 136c 137d / *Philoctetes* [96-99] 183a

5 EURIPIDES *Alcestis* [6 9-70] 242c 243a

5 ARISTOPHANES *Acharns* [6, 6-718] 463a-c

7 PLATO *Laches* 31c / *Symposium* 166a / *Meno* 174b 175c / *Republic* bk i 295d 297b bk ii 320c 321d bk iv 353b d bk vi 380d 381a bk vii 398c 401d / *Timaeus* 471d 472a

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8 ARISTOTLE *Topics* bk i ch 2 [117 26 34] 164a / *Physics* bk vi ch 3 [247<sup>b</sup> 248 6] 330c d / *Soul* bk i ch 4 [408<sup>b</sup> 18 9] 638c / *Memory and Reminiscence* ch i [450 6<sup>b</sup> 9] 691a b

9 ARISTOTLE *History of Animals* bk ii ch i [50<sup>b</sup> 25-301 4] 23a b ch 4 24a b bk iii ch i [518 6<sup>b</sup> 29] 42c 43c bk iv ch 9 [536<sup>b</sup> 3-8] 63a b ch 10 [537<sup>b</sup> 14 20] 64b bk v ch 14 [544<sup>b</sup> 13 27] 71b c [545<sup>b</sup> 26-30] 72c bk vi ch i 1061 d 108a ch 5 [585 33] ch 6 [585<sup>b</sup> 29] 111b d ch 10 [587<sup>b</sup> 5 18] 113d 114a bk viii ch i [588 24-25] 114b d / *Parts of Animals* bk iv ch 10 [686<sup>b</sup> 30] 218a c / *Generation of Animals* ch ii [710<sup>b</sup> 12 18] 248d / *Generation of Animals* bk i ch 18 [725<sup>b</sup> 18 25] 265d 266 ch 19 [72 2 10] 267a 267b bk iv ch 2 [766<sup>b</sup> 27 34] 308b ch 6 [775 9-8] 317a b ch 8 [776<sup>b</sup> 15 28] 318d 319a bk v ch i [778<sup>b</sup> 20 70<sup>b</sup> 13] 321a d [780 14<sup>b</sup> 10] 322b d ch 3 [781<sup>b</sup> 30 782 20] 324a b ch 3 [783<sup>b</sup> 2] ch 4 [785<sup>b</sup> 7] 325c 327a / *Ethics* bk i ch 3 [1094<sup>b</sup> 29-1095 12] 340a b ch 9 [1099<sup>b</sup> 33 1100 9] 345b c bk iii ch 12 [1119<sup>b</sup> 34<sup>b</sup> 19] 366a c bk vi ch 8 [1142 12 19] 391b bk x ch 3 [1174 1 4] 428b / *Politics* bk i ch 13 [1259 29 126 33] 454b 455a bk vii ch 14 [1332<sup>b</sup> 36-41] 537c d bk vi i ch 7 [1342<sup>b</sup> 18 33] 548c / *Rhetoric* bk i ch 5 [1361<sup>b</sup> 6-15] 602a b bk ii ch 12 14 636a 638a

10 HIPPOCRATES *Injuries of the Head* par 18 69a b / *Aphorisms* SECT I par 13 14 131d ch ii par 39 133c par 53 133d SECT III par 3 134 par 18 134d par 24 31 135a b SECT VI par 6 140 par 29 30 141a par 57 141d SECT VII par 8a 144a / *Sacred Disease* 157b 158b

12 LUCRETIUS *Nature of Things* bk iii [445 458] 35d 36a bk iv [1037 1057] 57d bk v [222 234] 64a

13 VIRGIL *Aeneid* bk viii [152 174] 263a b [51 520] 272b 273a

18 AUGUSTINE *Confessions* bk i par 13 2c 4 par 30-3 8b 9a / *City of God* bk xvi ch 16 573b 574a

19 AQUINAS *Summa Theologiae* PART I Q 77 A 8 REP 3 406b-407a Q 96 A 3 ANS 512 -C PART I II Q 34 A 1 RE 2 768c 769d Q 40 A 5 R P 2 795d 796c A 6 796 797a

20 AQUINAS *Summa Theologiae* PART I II Q 94 A 1 REP TO CONTRARY 221a d PART III UP L Q 70 A 1 REP 7 893d 895d

21 DANTE *Divine Comedy* PURGATORY x i [82 1 1] 77d

22 CHAUCER *Recess Prologue* [3862 3896] 224 22

23 MAC HAVELL *Prince* c xxv 36b

23 HOBBS *Lexicon* PART I 53d 60b 78b-c 24 R B L *Gargantua and Pantagruel* bk i 14c 19a

- 25 MONTAIGNE *Essays* 43a c 63d 64b 72b c 74b 156d 158a = 185d 188d 339a d 394a 395b 405a-403b 432d-434a 535c 536a
- 26 SHAKESPEARE *1st Henry VI* ACT II SC V [161-174] 66d / *2nd Henry VI* ACT III SC II [321-357] 486d-487a / *Henry V* ACT I SC I [2-69] 533b c / *As You Like It* ACT II SC VII [137-166] 608d 609a
- 27 SHAKESPEARE *Hamlet* ACT II SC II [197-209] 42c d / *Troilus & Cressida* ACT II SC II [163-173] 115b / *King Lear* 244a 283a c esp ACT I SC I [291-312] 247c d, SC II [48-53] 248b-c [75-79] 248c d SC III [12-1] 249d 250b SC IV [58-344] 252c 253c ACT II SC IV [145-158] 260a ACT IV SC II 276c 277d / *Macbeth* ACT V SC III [30-28] 307d
- 28 HUME *On A Final Generation* 450a B
- 29 BACON *Advancement of Learning* 70b c
- 32 MILTON *Paradise Lost* BK XI [527-543] 310b-311a
- 35 LOCKE *Civil Government* CI VI 36a-42a passim
- 35 HUM *Human Understanding* SECT VIII DIV 66 420b
- 36 SWIFT *Gulliver* PART I 127a 128a
- 36 STERNE *Tristram Shandy* 357b-353b
- 38 MONTESQUIEU *Spirit of Laws* BK XIII 188a
- 38 ROUSSEAU *Inequality* 336a U / *Social Contract* BK I 387d BK II 402d
- 39 SMITH *Wealth of Nations* BK V 309d 310
- 43 FEDERALIST NUMBER 79 234c d
- 43 MILL *Utilitarianism* 271d 272a
- 44 POWELL *John* 8b 55c 56a 126d 128b 146b d 360b 381a 407d-408a 422c
- 46 HUME *Philosophy of History* INTRO 169d 187d 188b 203d 206a c PART I 222d 257d PART II 259a b
- 47 GOETHE *Faust* PROLOGUE I [184-13] 5a b [237-365] 6b 57a [407-408] 99b PART I [668-681] 164a 166b [10-331-344] 251b 252a
- 49 DIDEROT *Decent of Man* 297b 562 563a
- 51 TOULSTOY *War and Peace* BK II 132b-c 153d 154b BK I 168d 169b 171c d BK V 205d 207b BK VII 305b-310d passim BK X 391d 394d 400c 401d BK XII 559d BK XIII 584c EPILOGUE I 659d 660b
- 52 DOSTOEVSKY *Notes from Underground* K I 7a 8d = V 117c 127b BK I 167c 168a BK II 27 a 297d EPILOGUE 411b-412d
- 53 JAMES *Psychology* 206b 207 242a 270 409 B 413b [fn 2] 431b-433a 649b 650a 711b-717a
- 54 FREUD *Origin and Development of Psychoanalysis* 15a 16 17b 18a / *Sexual Enlightenment of Children* 119a 122a c passim / *Introductory Lectures* f *Dreams* 191b-193 238b 246b passim esp 238 239a 241b c 243a c / *Narcissism* 400 b 406b-407 410b / *General Introduction* 49 a-496b 526d 527b 528d 531d 572d 576d 579b 584d 592c 594d

599d 612d 614b / *Beyond the Pleasure Principle* 641d 643c esp 643b = 644d 645a 651b c / *Group Psychology* 685b 686a 693 c / *Ego and Id* 704d 706c / *Inhibitions Symptoms and Anxiety* 725d 726a 738b 740c 743a 744a 746c 747a 751d 753c / *Civilization and Its Discontents* 768b d / *New Introductory Lectures* 855b 863c esp 855d-858d 860b 861c 869a 870c

## 7 Group variations in human type racial differences

### 7a Biological aspects of racial type

- 6 HERODOTUS *History* BK II 69b d BK III 91b-c 113d 114b BK IV 128a c 131b-c 143b-c
- 9 ARISTOTLE *History of Animals* BK III CH 9 [517-12-10] 41 CH 22 [523-17-19] 48c BK II CH 4 [584-8-15] 110b / *Generation of Animals* BK II CH 2 [731-9-13] 276d BK V CH 3 [752-30-783] 324d 325a
- 10 HIPPOCRATES *Airs Waters Places* PAR 3 7 9 12a p r 12 15 14b 15c par 19-24 16c 19a c
- 26 SHAKESPEARE *Titus Andronicus* ACT IV SC I [1-127] 188b 189a ACT V SC I [20-53] 192c d
- 27 S. J. KESSELY *Othello* ACT I SC II [62-81] 208b-c SC III [94-1] 210a
- 38 MONTESQUIEU *Spirit of Laws* BK XIV 102b d 104c
- 40 GEORGE BOY *Decline and Fall* 546d
- 41 GEORGE BOY *Decline and Fall* 49d
- 44 ROSSWELL *Johnson* 113a
- 46 HEGEL *Philosophy of History* PART IV 352a 353a
- 48 MELVILLE *Moby Dick* 304a 305a
- 49 D. R. WIN *Descent of Man* 342a 359d esp 348 350b 356 359d 62d 565a passim 573d 576d 578a 589d esp 583b 584d 586a 589 d 591 c

### 7b The influence of environmental factors on human characteristics climate and geography as determinants of racial or national differences

- 6 HERODOTUS *History* BK I 31d 32a BK II 91b c BK IX 314a c
- 7 PLATO *Laws* BK V 696d
- 9 ARISTOTLE *Politics* BK VI C 17 [1327-19-38] 531d 532a
- 10 HIPPOCRATES *Airs Waters Places* PAR 3 7 9 12a p r 12 13 14b-15a par 15 16 15b-16 p 9 21 16c 17b par 23 418 19a c
- 12 LUCRATIUS *Nature of Things* K I [106-1113] 94d 95a
- 14 P. UT. RICH. S. LON 7 d / *Pompey* 512 d
- 25 MONTAIGNE *Essays* 279b c
- 26 SHAKESPEARE *Henry V* ACT III SC V 547a c
- 36 SWIFT *Gulliver* PART II 79a 80 PART IV 168a U

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- 36 STERNE *Tristram Shandy* 203a 204a 224a b 295b 296b  
 38 MONTESQUIEU *Spirit of Laws* BK XIV 102b d 108d K XV 111a b BK XVI 116a 120a BK XVII 122a 124d passim BK X 11 125a 129c BK XVI 153a 154 BK XXIII 190c d  
 38 ROUSSEAU *Inequality* 349a / *Social Contract* BK III 415b-417c  
 39 SMITH *Wealth of Nations* BK IV 291a c  
 40 GIBBON *Decline and Fall* 45d 87d 88a 397c 398a 409d 412c esp 410a 411a  
 41 GIBBON *Decline and Fall* 220b 223c passim esp 212b = 338b c 341b 342c 778a [n 1]  
 43 FEDERALIST NUMBER II 55d 56b  
 46 HEGEL *Philosophy of Right* PART III par 346 111b / *Philosophy of History* INTRO 190b-201a c PART I 235c d 236d 237a 251d 252d PART II 259d 260a  
 49 DARWIN *Descent of Man* 267a c 268b 269a 343c 344a 356b 358d 584a b

7c Cultural differences among men Greek and barbarian Jew and gentile European and Asiatic

- OLD TESTAMENT *Genesis* 12 14 15 17 18 9 6 16 7 46 35 9 13 / *Exodus* 34 1 7 / *Leviticus* 26 / *Deuteronomy* 7 18 10 15 14 2 26 7 19 28 1 10 58-65 / *Judges* 14-16 / *Ruth* / *1 Kings* 8 38 43 51-53 1 10—(D) III A g 8 38 43 51 53 11 1 10 / *1 Chronicles* 17 21 24—(D) / *Paralomeno* 17 21 24 / *Ezra*—(D) *Ether* 1 10 3 / *Ezra* 37 37-21 22—(D) *Ezra* 37-21 22 / *Dan* 1 11-8

- APOCRYPHA *Fest of Esther*—(D) OT *Ezra* 4 6 24 / *II Maccabees* 6 1 11 11-22 26—(D) OT *II Maccabees* 6 1 11 11-22 26

- NEW TESTAMENT *Matthew* 10 5-6 / *Acts* 15 1 29 esp 15 9 15 17 16 16 24 / *Roman* 2 9-29 3 29-30 4 11 12 10 12 / *1 Corinthians* 1 1-2 24 12 13 / *Galatians* 3 26-9 4 21 31 / *Ephesians* 2 11 22 / *Colossians* 3 9 11

- 4 HOMER *Iliad* BK IV [4 2 445] 28a b  
 5 EURIPIDES *Medea* 212a 224a c / *Achilles* 315a 326a c esp [147 245] 316c 317b [145-453] 319a b [590-601] 320b / *Hecuba* [196-1201] 363a / *Iphigenia Among the Taurians* 411a-424d / *Iphigenia at Aulis* [1392 1401] 437d

- 6 HERODOTUS *History* Ia 314a c passim esp BK I 12d 13b 35b = BK II 57d 58a 61d 69b d BK III 97d 98a BK IV 137 138c 140d 141a BK V 163d 164a BK VII 216b d 232d 233d 253b 254a BK VI 1 264c 287c d BK IX 291c-292a 298a 302c 305d 306a 308d 310c

- 6 THUCYDIDES *Peloponnesian War* BK I 350b d 366a c 370a c BK II 395d 397d BK VIII 589d 590a  
 7 PLATO *Catalus* 106b = / *Republic* BK IV 350c d BK V 357d 358a 367b 368c / *Statesman* 82d 583b / *Laus* BK I 645b-647c  
 9 ARISTOTLE *Politics* BK I CH 2 [1252<sup>b</sup> 5-9] 445d CH [1255 28-37] 448d-449 BK III CH 14 [1275 17 29] 483b c BK VII CH 7 [1327<sup>b</sup> 19-38] 531d 532a  
 10 HIPPOCRATES *Art Medici Places* par 16 15d 16a par 23 18a c  
 14 PLUTARCH *Themistocles* 99b c / *Marcellus* 254c 256b / *Flaminius* 303 310d  
 15 TACITUS *Annals* BK II 23d 24a / *Historia* BK V 295d 296a  
 18 AUGUSTINE *City of God* BK I CH I 17 129d 140b K I CH 34 206d 207a c BK XVI CH 16 433c-434a CH 18 434c CH 21 28 435a 440b CH 32 442b c BK XIV CH 22 525b =  
 20 AQUINAS *Summa Theologiae* PART II Q 98 AA 4-5 242b 244b QQ 02 105 270b 321a passim  
 22 CHAUCER *Troilus and Criseyde* BK II ST 172A 3 7 22a b / *Tale of Man of Law* [4631 4641] 238a / *Princess's Tale* [134 8-620] 392a 395b  
 23 HOBBS *Leviathan* PART I 267c d  
 25 MONTAIGNE *Essays* 44b 48a 91d 98b esp 93b 94a  
 26 SHAKESPEARE *Merchant of Venice* ACT I SC II 409 411b A T II SC III 414a b CT III SC I 418d-420a SC I I 423b d ACT IV SC I [386-40] 429 d  
 31 DESCARTES *Discourse* PART II 46b c  
 37 FIELDING *Tom Jones* 266 269b  
 38 MONTESQUIEU *Spirit of Laws* BK XIV 102b d 108d BK V 110a d BK XVI 116a 120a BK XIV 135a 146a c passim BK V 1 153a =  
 38 ROUSSEAU *Inequality* 352b / *Social Contract* BK II 402d-403a  
 40 CARRON *Decline and Fall* 99c 179d 183a 207b 20 d 260d 261a 402a 409d-410  
 41 CARRON *Decline and Fall* 32d 34c 35b 36c 222d 226a passim esp 224b 300 c 336c 339b passim 341b 343a 508d 509d  
 42 KANT *Judgment* I 504a b  
 43 MILL *Liberty* 300d 302 307d 308c  
 46 HEGEL *Philosophy of Right* = AT I I par 351 112a b / *Philosophy of History* 153 369 = passim esp IV 161 c 174b = 176b 177b 178a 182d 183a 183d 188b 192a 194a 196d 199d PART I 211a 221 222 233a 235c d 245d 247b 250a c PART II 276d 277a 277d 278a 279c d PART III 289b d 312c 313a PA T I 352a 353a  
 48 MELVILLE *Moby Dick* 17 19a 36b-46a 60b 65a 350b 354b  
 49 DARWIN *Descent of Man* 323 b 571b-577d esp 573b-c 575d 577b = 584a b

- 51 **TOLSTOY** *War and Peace* BK III 140d 141b BK IV 171b BK VIII 309b-c BK IX 358b 365c  
 PASSIM esp 362d 363a BK XI 497c-499c  
 515c 521c BK XIII 575d 577a BK XV 624d 626d  
 52 **DOSTOEVSKY** *Brothers Karama* OL BK V 123b 125c  
 54 **FREUD** *New Introductory Lectures* 882c d

## 8 The origin or genealogy of man

### 8a The race of men as descendants or products of the gods

- 6 **H** **RODOTUS** *History* BK II 79c 80a  
 7 **PLAT** *Protagoras* 43d 45a / *Symposium* 157b 158b / *Timaeus* 452c-454a 466a-467d / *Lysis*, BK IX 743a b  
 12 **EPICURUS** *De coelestibus* BK I CH 3 108b-c CH 6 111a-c CH 13 120b CH 17 123d BK III CH II 187a b CH 24 201b-c  
 14 **PLU** AR N *Alexander* 553d 554b  
 17 **PLOTINUS** *Second Ennead* TR I CH 5 37b-c  
 18 **AUGUSTINE** *City of God* BK III CH 4 170c  
 48 **M** **LIVRE** *M by Dick* 345b 346b  
 49 **DARWIN** *Descent of Man* 265d

### 8b God's special creation of man

- O D T STAM NT *Genesis* 1 6-27 2 7 18 21 23 51 2 / *Job* 10 8 12 / *Psalms* 8 4-6 100 3 119 73 139 14 16—(D) *Psalms* 8 5-7 99 3 1 87 3 138 14 16 / *Lamentations* 29 15 16 43 7 45 1—(D) *Lamentations* 29 15 16 43 7 45 12 / *Jeremiah* 27 5—(D) *Jeremiah* 27 5 / *Mala-chi* 2 10—(D) *Mala-chi* 2 10  
 APOC Y N *Wisdom of Solomon* 2 23 6 7 10 15 10-11—(D) OT *Book of Wisdom* 2 23 6 8 10 1 15 0-11 / *Ecclesiasticus* 17 3 33 0-13—(D) OT *Ecclesiasticus* 17 3 33 10-14 / II *Maccabees* 7 23 28—(D) OT II *Machab* 1 7 3 28

- NEW TESTAM N *Matthew* 19 4 / *Mark* 10 6 / *Acts* 7 4 29 / *I Corinthians* 15 45 / *Colossians* 1 4 3  
 11 **AUGUSTINE** *City of God* BK VII CH 29-3 261a-c BK X CH 31 319b d BK XII CH 10-13 348b 350d CH 2 21 356d 357b CH 23 357d 358a h 26-7 359a 360 c K XII CH 4 373d 376 K XVII CH 1 586b d 587b / *Christi* *De civitate* BK I CH 2 629b-c  
 19 **AQUINAS** *Summa Theologiae* PART I Q 92 A 1 REP 368b 369d Q 73 A 1 REP 370a 371a Q 75 A 6 REP 383 384c QQ 90-92 480c-491d Q 1 8 600 604b

- 21 **DANT** *De ne Comedy PURATORY* XVI [85 90] 77d XXV [34 78] 91d 92 PARADISE VII [64-84] 115d 116 [1 1 48] 116b-c K [5-8] 126a b  
 22 **CH** **UCE** *Mo-k's Tale* [40 3-0 0] 434b  
 23 **HOB** *s Leviath* ART I 170d PART V 251a b  
 30 **B** **ON** *Advancement of Learning* 41b-c 54b-c

- 31 **DESCARTES** *Discourse* PART V 56a b / *Meditations* III 87d 88d

- 32 **MILTON** *Paradise Lost* BK I [620-659] 107b BK II [345 353] 118b 119a BK VII [139-161] 220a b [499-550] 228a 229a BK VIII [452 499] 242a 243a BK XI [497-511] 310a b  
 35 **LOCKE** *Civil Government* CH II SECT 6 26b-c CH VI SECT 56-57 36d 37a  
 37 **FIELDING** *Tom Jones* 187d 188a  
 41 **GIBSON** *Decline and Fall* 228a  
 49 **DARWIN** *Descent of Man* 265d 590b  
 51 **TOLSTOY** *War and Peace* EPILOGUE II 689b  
 52 **DOSTOEVSKY** *Brothers Karama* OL BK V 120d 121c  
 53 **J** **AKES** *Psychology* 420a  
 54 **FREUD** *General Introduction* 562d

### 8c Man as a natural variation from other forms of animal life

- 38 **ROUSSEAU** *Inequality* 334b d  
 42 **KANT** *Judgements* 578d 580a esp 579b h  
 47 **GOETHE** *Faust* PART II [8245-8 64] 201a [8321-8326] 202b 203a  
 49 **DARWIN** *Descent of Man* 253a 287b sp 253a 254a 255a c 265a d 284c 285c 331a 341d esp 341a d 590a 591d 596d 597a c  
 51 **TOLSTOY** *War and Peace* EPILOGUE II 689c 690a  
 53 **JAMES** *Psychology* 51b-52b 95a 98a  
 54 **FREUD** *General Introduction* 509d 510a 562d 591d 592a / *New Introductory Lectures* 881a

### 9 The two conditions of man

#### 9a The myth of a golden age the age of Kronos and the age of Zeus

- 5 **AECHYLUS** *Prometheus Bound* 40a 51d  
 6 **H** **RODOTUS** *History* BK II 80a  
 7 **PLATO** *Cratylus* 92b d / *Timaeus* 444c 446b / *Critias* 478 485d / *Symposium* 586c 589c / *Lysis* BK V 681b d  
 13 **VIR** *Elogia* v 14a 15b / *Georgics* I [119 146] 40a-41a / *Aeneid* K [247-296] 110a 111a BK VIII [306-336] 267a 268a  
 14 **PLUTARCH** *Numa Pompilius* 59d 60b  
 15 **TACITUS** *Annales* BK I 51b  
 21 **DANTE** *Divine Comedy* INFERNO XIV [94 1 1] 20 d PURGATORY XXII [130 154] 67d 88 XXVIII [136-148] 97  
 24 **RABELAIS** *Gargantua and Pantagruel* K III 143b-d  
 25 **MONTAIGNE** *Essays* 215b  
 27 **SHAKESPEARE** *Tempest* ACT 3 SC 1 [143-168] 532d 533a  
 29 **CERVANTES** *Don Quixote* PART I 27b 28a PART 208a c  
 30 **BA** **ON** *Advancement of Learning* 71d 72a  
 35 **HUME** *Human Understanding* SECT XI DIV 6-7 499b 500b  
 37 **FIELDING** *Tom Jones* 268 d  
 46 **H** **GEL** *Philosophy of History* INTRO 188c



98 The Christian doctrine of Eden and of the history of man in the world

98(1) The condition of man in Eden the preternatural powers of Adam

OLD TESTAMENT *Genesis* 1:26-30 2:7-25

Apocrypha *Wisdom of Solomon* 1:13-16 2:23-24—(D) OT *Book of Wisdom* 1:13-16 2:23-25 / *Ecclesiastes* 1:1-15—(D) OT *Ecclesiastes* 1:1-15

III AUGUSTINE *City of God* bk xi ch 12 329b c bk xii ch 21 357a b bk xiii ch 1 360a b ch 13 14 366a-c ch 23 372a 373c bk xiv ch 10-13 385b 388c ch 15-17 388d 391a ch 20-24 392b 395b ch 26-27 395d 397a bk xxi ch 30 617c 618a

19 AQUINAS *Summa Theologiae* PART I Q 76 A 5 REP 1 394c 396a QQ 94 102 501c 527a c

20 AQUINAS *Summa Theologiae* PART II Q 89 A 3 200d 201d Q 109 A 2 ANS 339c 340b A 3 ANS 340c 341b A 4 ANS 341c 342a A 8 ANS 344d 346a PART II Q 2 A 7 ANS 396a 397c Q 5 A 1 AN 410a-411b PART III Q 1 A 3 REP 2 704d 706a

21 DANTE *Dive Comedy* PURGATORY CANTOS [91]-CANTOS [36] 97a 98a PARADISE VII [64-93] 115d 116a XIII [31-87] 123d 126b

II CHAUCER *Monk's Tale* [14 013-020] 434b / *Poems Tale* par 28 507a b

III HOBBS *Leviathan* PART III 191b 192c PART IV 250c d

30 BACON *Ad animum de Learning* 17d 18a

31 SPINOZA *Ethics* PART IV PROP 68 SCHOL 445a b

32 MILTON *Paradise Lost* bk i [650-654] 107b bk iii [56-371] 136b 143b bk iv [32-538] 153a 164a esp [131 171] 155a 156a [205 392] 157a 161a [610-775] 165b 169a bk v [1-560] 173a 187b bk vi viii 287a 246b esp bk viii [1-360] 232a 244a bk ix [1 1004] 247a 269a bk xi [45 71] 300a b bk xii [63 110] 320b 321b

33 PASCAL *Pensées* 560 272b

46 HEGEL *Philosophy of History* INTRODUCTION 179d 180c PART III 304d 306a

51 TOLSTOY *War and Peace* bk v 275a

52 DOSTOEVSKY *Brothers Karamazov* bk v 125a 126a

98(2) The condition of man in the world fallen man corrupted or wounded human nature

OLD TESTAMENT *Genesis* 3 esp 3:15-19 6:5-13 8:21 / *Job* 5:7-8 9:14 15: passim 25:4-6 / *Psalms* 8:14-23 39:5-6 115:2-5 53:1-3 103:13 15:144 3:4—(D) *Psalms* 8:13-33 38:6-7 11:12 50:4-7 52:1-4 102:13 15:143 3:4 / *Psalms* 20:9 / *Ecclesiastes* esp 2:18-26 3:19 5:16-19 6:1 III 7:20 7:27 29 9:3—(D) *Ecclesiastes* 2:18-26 3:19 5:15 18:6 11:1 7:21 7:23 30 9:3 / *Jeremiah* 17:9—(D) *Jeremiah* 17:9

Apocrypha *Wisdom of Solomon* 1:13-16 2:12-23 24—(D) OT *Book of Wisdom* 1:13-16 2:12-23 25

NEW TESTAMENT *Matthew* 15:10-20 / *Mark* 7:14 23 / *John* 8:3-8 / *Roman* 3:9-23 5:12 21 7:14 24 8:20-23 9:29 / *Corinthians* 3:1 4 15:21 22 / *Galatians* 3:22 4:1 3 5:29-21 / *Ephesians* 2:1-5 / *1 John* 15:17

18 AUGUSTINE *City of God* bk xii ch 22 357c bk xiii ch 3 361a c ch 10 364a-c c 113 14 366a-c ch 23 372a 373c bk xiv ch 1 376b d 377a ch 3 378a d ch 12 387a b c 15 6 388d 396c bk xxi ch 30 571a c ch 15 572c 573b bk xxi ch 22 23 606d-609a

19 AQUINAS *Summa Theologiae* PART I Q 17 A 9 REP 3 692d 693d

20 AQUINAS *Summa Theologiae* PART II QQ 81 83 162d 174b Q 85 A 1 ANS 178b 179b A 3 180b 181b A 5 181d 182d Q 91 A 1 ANS 212c 213c Q 109 338a 347d passim PART III Q 8 A 5 REP 1 760a d QQ 24 15 784a 796a

21 DANTE *Dive Comedy* HELL, CANTOS [94 120] 20c d PURGATORY III [16-45] 56a b x [121 129] 68c d XVI [5-114] 77b 78a XXVIII [91 96] 97a PARADISE VII [19-143] 115b 116c XIII [31-87] 125d 126b

22 CHAUCER *Monk's Tale* [14 013-0 0] 434b / *Second Nun's Prologue* [15 497-552] 461b-462b / *Second Nun's Tale* [15 788-82] 467 b / *Poems Tale* par 53 526b 527a

23 HOBBS *Leviathan* PART III 191b 193c passim PART IV 250c 251b 253b-255b passim

24 RABELAIS *Gargantua and Pantagruel* bk ii 81a b

25 MONTAIGNE *Essays* 238c

30 BACON *Novum Organum* bk ii APPI 52 195a d

32 MILTON *Paradise Lost* bk i [1 6] 93b 94a bk ii [496-505] 122a [1021 1033] 133b bk iii [167 216] 139a 140a [274 343] 141b 143a bk iv [304 3 0] 150a b bk vii [542-547] 229a bk ix [1 80 1189] 264b 273a bk x [103 117] 276b 277a [229 414] 279b 283b [587-610] 287a 288b [720-844] 290a 29 [1 046-11 4] 297a 298b bk xi [45 71] 300a b [84-95] 301a [162 180] 302b 303a [251 26] 304b-305a bk xi [334]-bk xii [649] 306b 333a

33 PASCAL *Pensées* 430 45a 247b 431 435 248a 251a 439-450 251a 253a 560 272b

37 FIELDING *Tom Jones* 1 38d

44 BO WELLS *John* on 482a

46 HEGEL *Philosophy of Right* ADDITIONS 14 118c d / *Philosophy of History* PART III 304d 306a

50 MARX *Capital* 354b

51 TOLSTOY *War and Peace* bk vii 275a

52 DOSTOEVSKY *Brothers Karamazov* bk iii 54a b bk v 125a 126a 127b 137 passim bk vi 165b 169c

- 16(3) The Christian view of the stages of human life in the world law and grace

- NEW TESTAMENT *Matthew* 5 17-44 / *Luke* 16 16-17 / *John* 1 17 3 3-8 / *Acts* 10 13 38-39 / *Romans* 2-8 / *11 Corinth* ans 3 5 17 / *Galat* 1 / *Ephesians* 2 14 15 4 17 24 / *P il pp ans* 3 8-10 / *Colossians* 2 3 / *11 Tim othy* 1 8 10 / *Hebrews* 1 / *Peter* 1 1 2 10
- 18 AUGUSTINE *Confessions* bk xiii par 49-51 124a d / *City of God* bk x ch 14 307c 308a ch 2, 313c 314c bk xii ch 2 357c bk xv xviii 397b d 507a,c esp bk xi ch i 3 397b d 399c ch i 415b-416a bk xvi ch 26 438c-439a ch 37 444b-445a bk xvii ch i 4 449a-455 bk xviii ch ii 477c d bk xix ci 4 532b-c bk xxi ci 16 573b-574a bk xxii ch 30 618c-d / *Christ an Doc trine* bk iii ch 33 670b-c
- 19 AQUINAS *Summa Theologica* PART I Q 51 A 2 REP I 276b-277a Q 73 A 1 REP I 370a 371a
- 20 AQUINAS *Summa Theologica* PART I-II Q 98 239b 245b QQ 106-107 321a 330d PART II-II Q 1 A 7 REP 4 385c 387a
- 21 DANTE *Divine Comedy* PARADISE VII [19-148] 115b 116c
- 22 LAURENCE *Pars n s Tale* par 53 526b 527a
- 23 MILTON *Paradise Lost* bk iii [56-415] 136b-144b esp [130-134] 138a, [227-238] 140b k x [ 2 ] 299a b [251 262] 304b 305a bk xi [334] k x i [649] 306b 333a
- 24 PASCAL *Pens* 560 272b 65, 292b 699 302b
- 25 DOSTOEVSKY *Br thers Karama ol* bk v 127b 137c pass m
- Secula concept ons of the stages of human life man in a stat of natu e and in so ciety preh stor c and histor c man pr mitive nd ci lized man
- 4 H ER Ody ey bk ix [105 141] 230b c
- 5 A S H LUS *P metheus Bound* 40a 51d esp [196-256] 42b d [44 -506] 44c-45a
- 6 THUCYD DE *Peloponnes an War* k i 349a 354b
- 7 PLAT *Prot goras* 44a-45a / *Symp s m* 157b 159b / *Republc* bk ii 311b-c / *Laus* bk ii 663d 667b
- 9 AR TOTILE *Polites* bk ii ch 8 [ 69 4-8] 465
- 12 LUC ETIUS *Natur of Thing* bk v [9 14] 73b 80 c
- 13 VIRG *Ae eid* bk vi [3 6-336] 267a 268a
- 15 T C TUS *A n ls* bk iii 51b
- 11 H BRES *Let ath n* PART I 84c 86b 94b-c P RT IV 257c 268a
- 25 MONTA C *E says* 91d 98b esp 93b 94 237d 238c 440b-443d
- 26 SH EE PE RE *A Y u Lak It* 597a 626a c esp ACT II 1 [ 20] 603c d ACT III SC II [ 1-90] 609d-610c

- 27 SHAKESPEARE *Cymbeline* ACT III SC III 465c-466c

- 30 BACON *Advancement of Learning* 20c d
- 31 SPINOZA *Ethics* PART IV PROP 37 SCHOL 2 435b-436a
- 35 LOCKE *Toleration* 16a c / *Civil Governmen* ch ii 25d 28c esp SECT 14 15 28b-c ch iii SECT 19 29b-c ch vii SECT 94 46a c ch ix 53c 54d
- 38 MONTESQUIEU *Spirit of Laws* bk i 2b 3a bk viii 52a
- 38 ROUSSEAU *Inequality* 329a 366d esp 329a 334a c 362a 366d / *Social Contract* bk i 324d d 394d esp 393b-c bk ii 398a b 400d 401a
- 39 SMITH *Wealth of Nations* INTRO 1b c bk i 6a d bk iii 163d 164a bk v 309a 311c
- 40 GIBBON *Decline and Fall* 53b c 86b d 96d passim esp 88d 89d 97c d 398d 399a 409d-414a passim esp 409d-410a 566a b 632b 634a u
- 41 GIBBON *Decline and Fall* 86d 87b
- 42 KANT *Pure Reason* 222b-c / *Science of Right* 402c 405d-406c 408c 409c 412c-414c 433c 434d 435c 436b 450d 451a
- 43 FEDERALIST NUMBER 51 164c d
- 43 MILL *Liberty* 272a / *Utilitarianism* 472b c
- 44 BOWELL *John on* 110d 124d 126a 164d 204c 205a 209a 214b 221c d 311b 408d 409a 510b c
- 46 HEGEL *Ph losophy of Right* P RT III par 187 65a c par 194 66c d par 256 79d 80a ADDI TIONS 126 137a b 129 137c / *Philo ophy of H sto y* INTRO 171c 172b 179d 182 188c 196d 199d PART 209b 235d 236a 240a b 243d 244c PART II 260b-261a 267b 268b PART IV 317d 318a
- 48 MEL TIL *M by Duck* 9b 23b 136b 137a 171b 221b-223b 354a
- 49 DARW N *Origin of Sp cies* 13c / *Desc nt of Man* 314c 316a 317 d 320a 330a c passim esp 323a ■ 328d 330a c 349b d 351a 355d
- 50 MARX ENG LS *C mmun t Manife to* 421c
- 54 FREUD *War and Death* 755a 766d pass m esp 759c d 763a 766c / *Civil-at on and Its D scontents* 776c 782d e p 776c 777b 780d 781a 788d 789b
- 10 M N s conc ption of himself and h pl ce n the world
- 10s M n s understand ng of his rel tion to the gods or God
- OLD TEST AM NT  
NEW TE TAM NT
- 4 HO ER *Iliad* 3a 179d esp bk i 3a 9a c bk ii [340-447] 13b 14c bk iv [ 183] 24 25d bk v 30a 39 k vi i 51a 56d, bk v v 98a 111d k xvi [431-461] 117a ■ [343 867] 121c d bk xvi [ 37] 130a 131c k xx xxi 142a 154d k xx v [513-551] 176d 177a / *Odyssey* 183a 322d

- 10 *Man's conception of himself and his place in the world* 10a *Man's understanding of his relation to the gods or God*
- 5 Aeschylus *Suppliant Maidens* [86-103] 2a b / *Perseus* [798-831] 23d 24a / *Sea and Against Thebes* 27a 39a n / *Prometheus Bound* 40a 51d / *Agamemnon* 52a 69d / *Choephoroe* 70a 80d / *Eumenides* 81a 91d
- 6 Sophocles *Oedipus the King* [863-910] 107b c / *Oedipus at Colonus* 114a 130a c esp [258-91] 116c d [959-999] 123b = [1751-1753] 129d / *Antigone* 131a 142d / *Ajax* 143a 155a c esp [430-459] 146d 147a [666-677] 148d [748-783] 149c d / *Trojan Women* 170a 181a c esp [94-140] 171a b [1264-1278] 181c / *Philoctetes* [441-463] 186a [1316-1347] 193d 194a
- 7 Euripides *Hippolytus* 225a 236d esp [936-1466] 232d 236d / *Alceus* [962-996] 245c / *Suppliants* 258a 269a c esp [195-245] 260a c [734-749] 264d / *Trojan Women* 270a 281a c esp [895-990] 277c 278b [1277-1283] 280d / *Ion* 282a 297d esp [237-451] 284a 286c / *Helen* 298a 314a c esp [711-721] 304d 305a / *Andromache* [1070-1288] 324b 326a c / *Electra* 327a 339a c esp [1233-1359] 338b 339a c / *Bacchantes* 340a 352a c / *Heraclitus* 351a [1301-1356] 376b d / *Orestes* 394a-410d esp [316-347] 397a b [1625-1693] 410b d / *Iphigenia at Aulis* 411a-424d esp [378-391] 414b [570-575] 416a [903-911] 419a / 435-1499] 424a d / *Iphigenia at Aulis* [1034-1035] 434c [1279-1335] 436d-437a
- 8 Aristophanes *Clouds* [356-411] 492b 493c / *Birds* [1189-1266] 557c 558b [1734-1765] 560c 563d / *Plutus* 629a 642d esp [76-146] 630a d
- 9 Herodotus *History* bk i 7b 10a esp 9d 10a 12d 13b 20b 22a 39a d 40d 41a bk iii 98b-c 99a bk iv 124d 125a 159d bk vii 217c 224d 225a 250b bk v 262b c 279d 280a bk ix 309d
- 6 Thucydides *Peloponnesian War* bk v 506b-c
- 7 Plato *Cratylus* 94a 106b / *Phaedrus* 125b 126c / *Ion* 144b 145c / *Euthyphro* 191a 199a c / *Apology* 206b d / *Phaedrus* 222b d / *Republic* bk ii 314c d 320c 324c / *Timaeus* 447a 477a c passim / *Cratylus* 478a-485d / *Theaetetus* 530b 531a / *Law* bk i 650a b bk ii 653b c bk iv 682d 683d bk v 686d 689c passim bk vii 721a-c bk x 757d 771b
- 8 Aristotle *Topics* bk i ch ii [105-2-6] 148c / *Metaphysics* bk i ch i [981-982-983-5] 501a b
- 9 Aristotle *Ethics* bk vii ch ii [1145-15-33] 395a b bk viii ch i [1158-1159-13] 410d-411a / *Rhetoric* bk ii c i [1383-33-68] 629c-d ch i [1391-30-31] 636d
- 11 Lucretius *Nature of Things* bk ii [81-660] 22b 23b [1090-1104] 29a bk iii [978-1023] 42d-43b bk v [146-234] 63a 64a [1161-1240] 76b 77b bk vi [43-79] 80d 81b
- 12 Epictetus *Discourses* bk i ch i 108b-c ch ii 110c 112b ch iii 118d 120b ch iv 120d 121c ch iv 123c 124a bk ii ch 8 146a 147c bk iv ch i 218b 219d ch i 224b d ch i 226d 228a ch ii 232c 235a
- 12 Aurelius *Meditations* bk ii sect i 256b d sect 3 4 257a b sect ii 13 258a c bk iii sect 6 261a c sect 13 267c bk v sect 8 269d 270b sect 27 272d bk vi sect 40 277d sect 42 278a b sect 44 278b c bk ix sect i 291a c bk xii sect 2 307b sect 5 307d 308a sect 3 309a b sect 30 310a b
- 13 Virgil *Aeneid* 103a 379a esp bk iv [77-122] 281a 282a bk x [96-117] 304b 305a [521-632] 319a b
- 14 Plutarch *Numa Pompilius* 50d 51c / *Coriolanus* 189a-c
- 15 Tacitus *Annals* bk iii 59d 60c bk vi 91b d bk xvi 179d 183d / *Historiae* bk i 189d 190a bk ii 235a d
- 17 Plotinus *Second Ennead* tr ix ch i 71a / *Third Ennead* tr ii ch 8-9 86c 88a
- 18 Augustine *Confessions* 1a 125a c passim / *City of God* 129a 618d / *Christian Doctrine* bk i 624a 636a c bk ii ch 7 638d 639c
- 19 Aquinas *Summa Theologiae* PART I Q 8 A 3 ANS AND REP 4 36b 37c Q 17 A 1 ANS 100d 101d Q 22 A 2 REP 4 5 128d 130d Q 23 A 2 132b 143 Q 83 A 1 REP 2 4 436d 438a Q 103 A 5 REP 3 531b 532b A 8 REP 1 2 533d 534b Q 116 592d 595 PART II Q 1 48 609a 626a c
- 20 Aquinas *Summa Theologiae* PART I Q 49-114 1a 378a c
- 21 Dante *Divine Comedy* esp PARADISE i [94-142] 107b d vii [19-120] 115b 116b xiv [40-66] 135c d
- 22 Chaucer *Troilus and Criseyde* bk i STANZA 30-35 5a b bk iii STANZA 89 66a bk iv STANZA 136-155 106a 108b bk v STANZA 259 267 154a 155a / *Knights Tale* [1291-1274] 180b 181a [1303-1333] 181b 182 / *Tale of Man of Law* 236b 255b esp [4869-4931] 242b 243b [5240-5253] 249b / *Franke's Tale* [7056-7-82] 281a b / *Franke's Tale* [1177-206] 353b-354a / *Princes Tale* 391a 395b / *Tale of Melibeus* par 17 407b 408a / *Melibeus's Tale* 432a-434a / *Melibeus's Tale* 434a 448b / *Knights Tale* [15-236-256] 456b 457a / *Second Nun's Tale* 463b-471b / *Parson's Tale* 495a 550a esp par i 495a b par i 503b 504a par 52-56 526a 528 par 103 549b 550a
- 23 Machiavelli *Prince* ch xiv 35a b
- 23 Hobbes *Leviathan* PART I 54b c 78d 83 PART II 113b-c 159d 164a c PART IV 254b 260b-c 272b-c
- 24 Rabelais *Gargantua and Pantagruel* bk iv 265a d
- 25 Montaigne *Essays* 98b 99a 208a 294b esp 309a 212d 233a 234a 246a 256b

- 26 SHAKESPEARE *Richard II* ACT V SC II [23-40] 346c d
- 27 SHAKESPEARE *Hamlet* ACT I SC II [129-134] 32d ACT III SC III [36-96] 53d 54b / *A Lear* ACT IV SC I [30-37] 269d SC II [46-81] 271a b SC VI [34-80] 273d 274b / *A Tony and Cleopatra* ACT II SC I [1-8] 317d / *Pericles* ACT III SC I [1-26] 433c-434a / *Cymbeline* ACT V SC IV [1-151] 481a-482c SC V [425-485] 488b-d
- 29 CERVANTES *Don Quixote* PART II 267b-c 408c
- 30 H CON *Advancement of Learning* 80b 81a
- 31 D SCARTES *Discourse* PART IV 51b 54b passim / *Meditations* III 81d 89a passim IV 89a 93a / *Objections and Replies* 122a b 123c d 142b c 213b-214d 226d 227a 229c d
- 31 SPINOZA *Ethics* PART I PROP 25 COROL 365b PROP 29 SCHOL 366b-c APPENDIX 369b 372d PART II P OP 5 374c-d PROP IO 376c 377a P RT I PROP 423 b
- 32 MILTON *Paradise Lost* BK III [30-134] 137a 138a K IV [411-439] 161b-162a BK V [324-245] 180a b [506-543] 186a 187a BK X [610-640] 287b-288b / *Samson Agonistes* [373-419] 347b 348b [667-709] 354a 355a / *Areopagus* 394b 395b
- 33 PASCAL *Provincial Letters* 78b 80b / *Pensées* 359 239b 435-555 243b 270a
- 35 LOCK *Civil Government* CH II SECT 6 26b-c / *Human Understanding* BK II CH VII SECT 5-6 13 c d
- 35 BERKELEY *Human Knowledge* SECT 155 156 444b-d
- 35 HUME *Human Understanding* SECT VIII D V 78-81 485c-487a SECT XI DIV 106-109 499b-501a
- 38 MONTESQUIEU *Spirit of Laws* BK I 1a 2b BK X 85d 86a
- 38 ROUSSEAU *I* quality 366b d / *Social Contract* BK IV 435a-439c
- 40 GIBSON *Down and Fall* 292d 296c 409b
- 41 GIBSON *Decline and Fall* 258a 259b-260a
- 42 HANT *First Principles of Metaphysics of Morals* 278b-279d / *Practical Reason* 291a 292 315a 328b 334a 335c 345c d / *Introductory Metaphysics of Morals* 383b d 384 c / *Judgement* 502d 503a 594d [in 1]
- 43 MILL *Liberty* 296b-d
- 44 BOSWELL *John* 392d 393 394a-c 481d 482d
- 46 HEGEL *Philosophy of History* INTRO 158c 160b 169d PART I 224a 225 236a-c 245d 246c PART II 263d 265c 266d 268b 271c 280b 281b PART III 291b 292b 303c 307b 308a b PART IV 322a-c 339b d 349c 350c
- 47 GOETHE *Faust* PART I [354-517] 11a 14b [1810-1815] 43 PART II [8582-8590] 209a
- 48 MELVILLE *Moby Dick* 28a 36b 84b 85a 123a b 306b-307a 318b 380a 381a 396b-397a

- 49 DARWIN *Descent of Man* 302b 303d
- 51 TOLSTOY *War and Peace* BK I 50b-c BK V 196a 198b 216d 218b BK IV 357d 358b BK IV 608a b BK V 631a-c EPILOGUE II 675a 676b 680b-c 684b d
- 52 DOSTOEVSKY *Brothers Karamazov* BK III 54a b 64c 67a BK V 121d 137c passim BK VI 146b d 170d BK VII 177b 180a 185a c BK XI 313c 314d 337a 346a passim
- 53 JAMES *Psychology* 203a 204b
- 54 FREUD *Interpretation of Dreams* 246c 247d / *General Introduction* 582a b / *Civilization and Its Discontents* 771a 793c

## 10b Man as the measure of all things

- 7 PLATO *Cratylus* 85a 86d / *Theaetetus* 517b-532a esp 517b-c 527b 525a 526c 531b c 534b / *Laos* BK IV 683a
- 8 ARISTOTLE *Metaphysics* BK IV CH 5-6 528c 531c BK X CH I [1053 31 33] 580a CH 6 [1027 7 11] 581b BK XI CH II [1062 2 12 1063 14] 590d 592a
- 23 HOBBS *Leviathan* PART I 50a
- 46 HEGEL *Philosophy of History* PART II 279d 280b

## 10c Man as an integral part of the universe his station in the cosmos

- 7 PLATO *Laos* BK X 767c 768c
- 11 EPICTETUS *Discourses* BK I CH 2 106d 108b CH 12 118d 120b CH 14 120d 121c BK II CH II 146a 147c BK III CH 13 188b-189c C I 24 203c 210a BK IV CH I 213a 223d
- 12 AURELIUS *Meditations* BK II SECT 1 256b d SECT 4 257b SECT 9 257d 5 CT 16 259a BK IV 1 CT 14 264d SECT 23 265c SECT 48 267d 268a BK V SECT 3 4 269 SECT 8 269d 270b BK VI SECT 40-46 277d 278d BK VII 5 CT 9-10 280b-c SECT 13 280c V VIII SECT 27 287c 4 CT 34 288a b BK IX SECT 1 291a-c SECT 9 292b d BK X SECT 6-7 297a c BK XII SECT 30 310a b
- 17 PLOTINUS *Third Ennead* TR II CH 14 89b d
- 31 SPINOZA *Ethics* PART I PROP 25 COROL 365b PROP 29 SCHOL 366b-c PROP 31 366d 367a PART II PROP I O 373d 377a PROP II COROL 377b c PART III 395 d PART IV PROP 2 6 425a-426 APPENDIX, VI-VIII 447c d XXVI 449c XXVII 450c d PART V PROP 40 SCHOL 462d

## 10d The finiteness and insufficiency of man his sense of being dependent and ordered to something beyond himself

- OLD TESTAMENT *Genesis* 1:26-30 3:16-24 / *Numbers* 23:19 / *Deuteronomy* 8:3 / *1st* 4:7-21 12:14 25 / *Psalms* 8:39-4 103:14 10:1-9-12 139:1 16:144 34-4 (D) *Psalms* 8:38 5:14 16:118-119 138:1-6 143:3 4 / *Proverbs* 16:33 20:24 / *Jeremiah* 17:5-8 (D) *Jeremiah* 17:5-8

- (10) Man's conception of himself and his place in the world 10d Tb finiteness and his efficiency of man his sense of being dependent and order of his own thing beyond himself)
- Apocrypha Wisdom of Solomon 9 14 17 16 26  
—(D) OT Book of Wisdom 9 14 17 16 26 / Ecclesiasticus 18 7 11 33 10 15—(D) OT Ecclesiasticus 18 6-10 33 10-15
- New Testament Luke 4 4 / Romans 14 7-9 / I Corinthians 2 3 / James 4 13 16 / I Peter 1 24
- 5 Aeschylus Suppliant Maids {86-103} 2a b  
5 Euripides Alceus {962-996} 245c / Suppliant {193 245} 260a-c {734-749} 264d / Heracles Mad {1301 1356} 376b d  
6 Herodotus History bk I 7b 8a 20b 21a 46c d bk II 65b bk III 98b c 99a 103d 104b bk IV 153b d bk VII 252b-c bk IX 291b c  
7 Plato Phaedo 246c / Laws bk I 650a b bk VII 721a c bk X 767c 768c  
8 Aristotle Metaphysics bk VII CH 10 {1075 12 24} 605d 606a  
12 Epictetus Discourses bk IV CH 7 232c 235a  
12 Aurelius Meditations bk II SECT 3 257a b SECT 17 259b d bk III SECT 10 261d 262a bk V SECT 33 36 266c d bk V SECT 10 270c d SECT 33 273b c bk VII SECT 44-50 282b 283a bk XII SECT 32 310c  
14 Plutarch Aemilius Paulus 225b c 229a c / Sull 370c 371b / Demetrius 739c 740d 744b-c  
15 Tacitus Annals bk III 49c bk IV 68d 69b bk VI 91b d / History bk I 194a c bk II 232d 233a bk IV 281a b  
17 Plotinus Third Ennead TR II CH 9 87d  
18 Augustine Confessions bk I par 1 2 1a c bk IV par 15 19 23a 24b bk V par 1 2 27a c bk VI par 16-17 48c 49a bk VI par 23 26 68a d bk X par 7 8 73a c par 33 40 79d 81c bk XI par III 101c bk XIII par 9 112c d / Cry of God bk XII CH 1 342b d 343c bk XIX CH 4 511a 516d / Christian Doctrine bk I CH 38 635c d  
19 Aquinas Summa Theologiae PART I Q 12 A 1 ANS 50c 51c A 8 REP 4 57b 58b Q 60 A 5 ANS 313b 314c PART I II Q 2 A 3 617b-618a A 8 621c 622b Q 3 AA 6-8 627b 629c Q 5 A 3 638b 639a A 5 640b 641a  
21 Dante Divine Comedy HELL VII {61-96} 10b c PURGATORY III {16-45} 56a b x { 21 129} 68c d xi { 1 30} 68d 69a XVI {53 105} 77b d PARADISE VII 115a 116c  
23 Hobbes Leviathan PART II 163d 164a  
25 Montaigne Essays 6d 10a pa m 149b d 208a 294b esp 213a 215b 231d 234a 251c 252b 269d 270a 294a b 503b d 514d 515a 520b d 528c 529b  
31 Descartes Meditations III 81d 89a passim / Objections and Replies 122a b 214a d
- 31 Spinoza Ethics PART I APPENDIX 369b-372d PART IV PROP 422b d 424a PROP 2-6 425a-426a  
32 Milton Sonnets XVI 66b 67a / Lo d Gen Cromwell 69a b / Mr Cyriack Skinner 70a / Paradise Lost bk VI {168 184} 200a / Samson Agonistes 39a 378a esp {164 175} 343a b {373 419} 347b 348b {667-704} 354a 355a  
33 Pascal Pensées 72 181a 184b 205 211a 208 211b 227 213a 233 213b 216a / Geometrie / Demonstration 439b  
35 Locke Human Understanding bk II CH II SECT 3 128b-c CH VII SECT 5-6 132c d CH XV SECT 12 165b c CH XVII SECT 12 13 207a 208b bk IV CH XIV SECT 1 2 364b c  
38 Montesquieu Spirit of Laws bk I 1a 2b  
38 Rousseau Inquiry 366b d  
46 Hegel Philosophy of Right PART III par 270 285c par 340 110b-c / Philosophy of History INTRO 162a 170b 198d 198b PART II 266d 280b 281b PART III 304c 306c  
47 Goethe Faust PROLOGUE 7a 9b b IV 1 {632-655} 17b {907 010} 25b  
51 Tolstoy War and Peace bk I 30b c bk V 196a 198b bk VI 243d 250a 262c bk VIII 303a 305b bk XIV 605b d bk XV 431a c EPILOGUE 1 646d 647b 650b d 659c d 671c 672a EPILOGUE II 692c 694d
- 10e Man's comparison of himself with other creatures and with the universe as a whole
- 7 Plato Timaeus 447b-455c esp 451c-453c 466a b / Philo 618c 619c  
9 Aristotle Ethics bk VI CH 7 {1141 2 12} 390a b / Politics bk I CH 8 {1236b 15 23} 450c  
12 Lucretius Nature of Things bk VI {647-652} 89a  
12 Epictetus Discourses bk II CH 5 143d 144a bk III CH 13 189a  
12 Aurelius Meditations bk IV SECT 4 264a  
16 Kepler Epitome bk IV 915b 916a  
17 Plotinus Second Ennead TR IV CH 7 69c 70a  
19 Aquinas Summa Theologiae PART I Q 1 A 8 REP 2 692a b  
22 Claudius Tullius and Crassus bk I STANZA 31 35 5a b bk V STANZA 263 254b / Treatise of Man of Law 235b 255b esp {461b-463a} 237b { 4 0 4729} 239a b  
24 Rabelais Gargantua and Pantagruel bk III 135b 139b  
25 Montaigne Essays 213d 215a 259a-d  
27 Shakespeare Hamlet ACT II SC II {303 331} 43d ACT III SC I {122 132} 48b SC I { 53-63} 53a b ACT IV SC III {17 31} 58a b / As You Like It ACT III SC II 262d 263d SC IV 264a 266b ep {105 114} 265b / All's Well ACT V SC V {16-28} 308d 309a / Antony and Cleopatra ACT V SC II {76-100} 347a b / Pericles ACT I SC I {41-55} 422b ACT II C I { 1 11} 427b / Tempest ACT IV SC I { 48-159} 543b  
29 Cervantes Don Quixote bk II 237 427a

30 BACON *Advancement of Learning* p 50c 51d  
31 SPINOZA *Ethics* PART II PROP 13 SCHOL 378a-c

32 MILTON *Sonnets* VII 63b / *Paradise Lost* BK IV [411-735] 161b-168b esp [411 491] 161b 163 [721-735] 168a b BK VIII [249-559] 237b 344a / *Samson Agonistes* [164 175] 343a b [667-704] 354a 355a

33 PASCAL *Pensées* 72 181a 184b 347 348 233b 234a

34 LOCKE *Human Understanding* BK II CH XXIII SECT 11 207a 208b BK III CH VI SECT 12 271d 272b esp 272b BK IV CH XVI SECT 12 370c 371a

36 SWIFT *Gulliver* PART I 38-42a PART II 45a 87b PART IV 172b 173a

36 STERNE *Tristram Shandy* 383a 384a 394a

38 ROUSSEAU *Inequality* 349b-c

42 KANT *Pure Reason* 175b [In I] / *Fund Prin Metaphysic of Morals* 271d 273b esp 271d 272c 274a 277b / *Practical Reason* 327d 328b 348a b 360d 361d / *Pref Metaphysical Elements of Ethics* 373d / *Judgement* 583b-c 584d 587a 591b 592d

46 HEGEL *Philosophy of History* INTRO 168b d

47 GOETHE *Faust* PROLOGUE [280-292] 8a PART I [652-655] 17b PART II [11 404 419] 277b

48 MELVILLE *Moby Dick* esp 84b-85a 123a b 168a b 171b 204a, 209b 236a 239a 313b-314a 318a 319a b 341b-343a 347b 353b-354b 360b-361a 363a 364a 370b 371b 381a 409b-410b

51 TOLSTOY *War and Peace* BK III 156d 162b-164a,c BK V 217b 218b

52 DOSTOEVSKY *Brothers Karamazov* BK V 117c 127b *passim*

53 JAMES *Psychology* 655a 659a esp 655b 657b

54 FREUD *General Introduction* 562c 563a / *New Introductory Lectures* 874a

## 11 The theological conception of man

### 11a Man as made in the image of God

OLD TESTAMENT *Genesis* 1.26-27 51 96

APOCRYPHA *Wisdom of Solomon* 1.23-(D) OT Bo k of Wisdom 2.23 / *Ecclesiasticus* 17.1 3-(D) OT *Ecclesiasticus* 17.1-3

NEW TESTAMENT I *Corinthians* 11.7 15-49 / II *Corinthians* 3.18 / *Colossians* 3.8 10 / *James* 3.9

18 AUGUSTINE *Confessions* BK VI par 4 36a b BK XI par 12 113b d par 32 119a b / *City of God* BK XI CH 26-28 336d 338d BK XI CH 23 351d 358a CH 27 359c d / *Christian Doctrine* BK I CH 22 629b 630a

19 AQUINAS *Summa Theologica* PART I Q 3 A 1 REP 2 14b-15b Q 14 A 2 REP 3 76d 77d Q 32 I R P 2 175d 178a Q 35 A 2 REP 3 189d 190d Q 59 A 1 CONTRARY 306c 307b Q 72 A 1 R P 3 368b-369d Q 77 A 2 R P 1 401b-d Q 88 A 3 REP 3 472c-473a Q 91 A 4

REP 1 2 487d-488c Q 93 492a 501c Q 106 A 1 REP 3 545d 546d PART I II PROLOGUE 609a-c

20 AQUINAS *Summa Theologica* PART I II Q 55 A 2 REP 3 27a d Q 110 A 4 ANS 350d 351d

21 DANTE *Divine Comedy* PARADISE V [19-24] 112b VII [64-84] 115d 116a

22 CHAUCER *Troilus and Criseida* BK V STANZA 263 154b

30 B CON *Advancement of Learning* p 41b-d

31 DESCARTES *Meditations* III 88c d / *Objections and Replies* 214a d

32 MILTON *Paradise Lost* BK IV [385 294] 158b [356-365] 160a b BK VII [519-523] 228b BK XI [466-522] 309b 310b / *Arcopagitica* 384a

33 PASCAL *Pensées* 430-431 246b 247b 434-435 249b 251a

46 HEGEL *Philosophy of History* INTRO 168b-d PART III 304d 305b 310d

47 GOETHE *Faust* PART I [486-517] 14a b [614-635] 17a 18a

54 FREUD *Civilization and Its Discontents* 790d

## 11b The fatherhood of God and the brotherhood of man

OLD TESTAMENT *Genesis* 4.1 15 / *Leviticus* 19.11 13 18 33-34 / *Deuteronomy* 10.17 19 / *Psalms* 82.6 103.13-(D) *Psalms* 81.6

102.13 / *Isaiah* 2.1-4 45.1 13 63.15-16-(D) *Isaiah* 2.1-4 45.11 13 63.15 16 / *Micah* 4.1-5-(D) *Micah* 4.1-5 / *Malachi* 2.10-

(D) *Malachi* 2.10

APOCRYPHA *Ecclusiasticus* 13.15 17 25 1-(D) OT *Ecclusiasticus* 13.19-21 25.1 2

NEW TESTAMENT *Matthew* 5.38-48 12.46-50 19.19 22.39 23.8-9 25.34 40 / *Mark* 12.31

33 / *Luke* 10.27 / *John* 1.12 8.41 42 13.34-35 15.12 17 / *Acts* 17.22 34 esp 17.24 26 / *Romans* 3.29 8.14 19 12.13 8.10 14.10-13

/ II *Corinthians* 6.17 18 / *Galatians* 3.26-28 5.13-14 / *Ephesians* 2.13 22 3.6 14.15 4.1-6 25 5.1 2 / *Colossians* 3.9-14 / I *Thessalonians* 4.9-10 / I *Peter* 1.22 2.17 / I *John* 2.9 11 3.1 2.10-18 4.7 11.20-21 5.1 2

12 EPICTETUS *Discourses* BK I CH 9 114c 116b CH 13 120b-c BK III CH 11 187a b c 1.22 199b d CH 24 203c 204c 207a b

12 AURELIUS *Meditations* BK III SECT 4 260b-261a SECT 11 262a b SECT 13 262c BK VI SECT 42 278 b BK IX SECT 1 291a c

18 AUGUSTINE *City of God* BK XII CH 21 22 357a-c CH 27 359d / *Christian Doctrine* BK I CH 22 629b 630a CH 30 632-633b

20 AQUINAS *Summa Theologica* PART II I Q 25 27 501a-527a Q 29 A 3 ANS 531d 532c A 4 ANS 532 533a Q 44 A 2-3 593d 595b A 7 597b 598a Q 184 A 2 REP 3 629d 630d

22 CHAUCER *Parson's Tale* par 31 517b-518b

30 BACON *Advancement of Learning* p 31d 32a

44 BOSWELL *Johnson* 392b-c

46 HEGEL *Philosophy of History* PART III 308a Q 310d 311a

- (11) *The theological conception of man* 11b *The fatherhood of God and the brotherhood of man*

48 MELVILLE *Moby Dick* 84b 85a

51 TOLSTOY *War and Peace* BK V 196a 198b 213a 218b BK XI 525c 526b

52 DOSTOEVSKY *Others: Karamazov* BK V 117c 137c *passim* BK VI 146b d 170d *passim*

53 JAMES *Psychology* 887a b

54 FARUD *Group Psychology* 674c d

- 11c God incarnate in human form the human nature of Christ

New Testament *Matthew* 1 18 25 2 11 11 18 19 13 54 56 14 33 16 13 17 17 1-9 23 41 46 26 63-66 27 26 54 / *Mark* 3 9-12 6 3 3 14 61-62 15 15 39 / *Luke* 1 2 esp 1 26-38 2 8 11 5 18 26 7 33-34 11 27 28 22 67-70 23 24 47 24 2 7 36-43 / *John* 1 1 18 esp 1 14 1 30-34 5 16-47 esp 5 27 6 42 8 12 28 10 22 38 11 27 14 19 25 34 20 24 2 14 / *Romans* 1 3 4 8 3 / *II Corinthians* 1 5 16 / *Galatians* 4 4 / *Ephesians* 2 14 16 / *Philippians* 2 5-8 / *Colossians* 1 12-20 / *I Timothy* 2 5 3 16 / *Hebrews* 1 1-6 2 14 18 4 14 15 5 7-8 7 20-25 / *I John* 1 1-4 2 18 29 4 2 3 / *II John* 7 11

18 AUGUSTINE *Confessions* BK V par 20 37d 33a BK VII par 13 14 47c-48b par 24 25 50d 51c BK X par 67 70 88b 89a BK XI par 4 90a b / *City of God* BK I CH 15 293a 294a CH 17 295a c BK X CH 20 311b c CH 22 312a b CH 24 312d 313c CH 27 39 315b-318b BK XI CH 2 323a c BK XXI CH 15 16 572c 574a / *Christian Doctrine* BK I CH 11 14 627b-628b CH 34 634b c

19 AQUINAS *Summa Theologiae* PART I Q 51 A 2 REP 1 276b 277a A 3 REP 5 277a 278 Q 95 A 1 REP 1 506b 507 PART II Q 5 A 7 REP 2 642a d

20 AQUINAS *Summa Theologiae* PART III QQ 1 26 701b d 845d esp QQ 4 15 730c 796a Q 26 845a 846d PART III SUPPL. Q 76 A 1 ANS 939d 941a Q 95 A 3 ANS 1045b 1046d A 4 ANS 1046d 1047d

21 DANTE *Divine Comedy* PURGATORY XXIX [106-120] 98d 99 XXVI [76-126] 101c 102a XXXII [28 48] 102c d PARADISE II [37 45] 108a VII 115a 116c XIII [31-37] 125d 126b XXXIII [76-145] 157a d

22 CHAUCER *Troilus and Criseida* BK V STANZA 264 154b / *Parson's Tale* [13 383 417] 391a b / *Parson's Tale* par 12 13 503b 505a

23 HOBBS *Leviathan* PART III 182a b

32 MILTON *Chilistades* BK VII 1a 7b / *The Passion* 10b-12a esp [15 21] 10b 11a / *Upon the Circumcision* on 12b-13a / *Paradise Lost* BK III [56-415] 136b-144b esp [238 241] 140b [18c 343] 141b-143a BK XI [22 36] 299b 300a BK XII [355 465] 327a 319a

33 PASCAL *Pensées* 532 262a 553 268a 270a 763-765 322a 783 323b 862 342b 343a

40 GIBBON *Decline and Fall* 308a b

41 GIBBON *Decline and Fall* 134a 161a c esp 134a 138a 230d 231a

46 HEGEL *Phenomenology of Spirit* PART III 306b-307b 308a b

52 DOSTOEVSKY *Others: Karamazov* BK V 127a 137c

- 12 Man as an object of laughter and ridicule comedy and satire

5 ARISTOTEL *Aethiopians* 455a 469a c / *Knight* 470a-487a c / *Cloud* 483a 506d / *Wasps* 507a 525d / *Peace* 526a 541d / *Birds* 542a 563d / *Frogs* 564a 582a c / *Lysistrata* 583a 599a c / *Thesmophoriazousae* 600a 614d / *Ecclesiazusae* 615a 628d / *Plutus* 629a 642d

7 PLATO *Phaedo* 237b c / *Philebus* 629a 630c

12 LUCRETIUS *Nature of Things* BK I [9-8-1052] 42d-43c BK IV [1073 1191] 58a 59d BK V [1007-1010] 74b

14 PLUTARCH *Antony* 774a b

22 CHAUCER *Miles's Prologue* 211a 212b / *Miles's Tale* 212b 213b / *Reeve's Prologue* 224a 225a / *Reeve's Tale* 225a 232a

23 MACHIAVELLI *Prince* CH XVII 24a c CH XVIII 25a 26a

23 HOBBS *Leviathan* PART I 59b c 63c

24 RABELAIS *Gargantua and Pantagruel*

25 MONTAIGNE *Essays* 6d 10a *passim* esp 6d 7a 10b 11b 42a b 145d 147b 159a 161c 165c 167a 168d 169a 208a 295a esp 213a 219a 231d 234a 251 252b 300d 301c 308c d 326b 327b 338c 393b 424d-426b 478c-482b 538a 543a c

26 SHAKESPEARE *Comedy of Errors* 149a 169d / *Taming of the Shrew* 199a 228a c / *Love's Labour's Lost* 254a 284d / *Midsummer Night's Dream* 352a 375d / *Henry IV* ACT II SC IV [510-550] 449a b / *Henry IV* ACT IV SC III [92 135] 492b c / *Much Ado About Nothing* 503a 531a b / *A You Like It* 597 626a c

27 SHAKESPEARE *Twelfth Night* 1a 28d / *Merry Wives of Windsor* 73a 102d / *Troilus and Criseida* ACT II SC III [1-82] 115d 116c / *All's Well That Ends Well* ACT IV SC III [56-87] 164c / *Measure for Measure* ACT II SC II [110-123] 183b ACT III SC II [234 245] 193d 192 [2 5 236] 192b / *King Lear* ACT III SC II [80-95] 263d

36 SWIFT *Gull or 3a* 184a esp PART II 71a 76b PART IV 135a 184a

36 SHERIDAN *The Rivals* 191a 556a

37 FIELDING *Tom Jones* 59c d 173b c 186c 189a b 205a c 274a b 275d 276a

38 MONTESQUIEU *Spirit of Law* BK XXV 208d 209a

47 GOETHE *Faust* PRELUDE [109-132] 3b-4a PROLOGUE [280-292] 8a PART I [1202 1209] 30a [1868 2 54] 44b-48b [3251 3341] 79b-81b PART II [4917 4922] 122a [5061-5064]

125a [5457-5470] 134b 135a [6956-6966]  
170b

### 13 The grandeur and misery of man

OLD TESTAMENT *Genesis* 1:26-30 3:17 19:11 1-9 / *If Samuel* 14:14-(D) / *If Kt gs* 14:14 / *If Ch omules* 29:15-(D) / *If Pa alipomenon* 29:15 / *Job esp* 3:1 26:5 7:1 21:14 1:12 15:4 16:21 23:26 25:4-6 29:1 30:31 / *Psalms* 8:4-8 39:4-6 11:49 12:14 51:2 5:89 47:49 103:13 16:144 3:4-(D) / *Psalms* 8:5-9 38:5 7:11 12:48 13:15 50:4 7:88 48:49 102:13 16:143 3:4 / *Ec lesiastes passim* / *Isaiah* 40:6-8-(D) / *Isaiah* 4:6-8

APOCRYPHA *Wisdom of Solomon* 9:1 3:13 16:10 1:2-(D) OT *Book of Wisdom* 9:1 3:13-10 10:1 2 / *Ecclesiasticus* 8:7 10:9 11:14 17:19 17:1 4:30-32 4:1 11:1-(D) OT *Ecclesiasticus* 8:8 10:9-13 14:18 20:7 1:4 29:31 40:1 1

NEW TESTAMENT *Rom ns* 7:21-25 / *Hebrews* 2:6-8 / *James* 4:14 / *If Peter* 1:24

4 *Hor er* *Mad an vi* [144 151] 41c BK XVII [420-455] 126b-d

5 *Aeschylus* *Prometheus Bound* [442-506] 44c 45a

5 *Sophocles* *Oedipus the King* [1186-1195] 110b-c [1524 1530] 113c / *O dipus at Colo s* [121: 1248] 125b-c / *A t gone* [332-375] 134a b / *Trach nia* [91 140] 171a b

5 *Eurip d s* *S pplia is* [193 245] 260a c [734-749] 264d

5 *Aristophanes* *Bi ds* [685-692] 551b-c

5 *Ha oduy* *History* bk i 2b 7b 8a 20b-21a BK V 160c d BK VII 224d 225a 252b c

7 *Plato* *Republic* bk ii 322a b / *Timaeus* 47b b / *Laus* bk vi 704b

12 *Lucretius* *Natu s of Ths gs* BK II [1-61] 15a d BK III [31-93] 30b 31b [1053 1075] 42c d

12 *E ictetus* *Disco tes* BK I CH 3-4 108b-110 CH 24 129a d CH 28 133b 134d K II

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I Works by authors represented in this collection

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## Chapter 52 MATHEMATICS

### INTRODUCTION

IT is necessary for us to observe the difference between problems *in* mathematics and the problem of the truth *about* mathematics. In the case of any science—in physics, logic, or metaphysics, as well as mathematics—it is one thing to examine the discourses or treatises of the scientists on the special subject matter of their field, and quite another ■ examine discussions of the science itself, its scope, branches, and unity, its objects, its methods, and its relation to other disciplines. The chapter on QUANTITY deals with the subject matter of arithmetic, geometry, and other branches of mathematics; here we are primarily concerned with the nature of mathematical science itself.

Sometimes reflections on the nature of a science are expressed by experts in its subject matter who comment on the scientific enterprise in which they are engaged in prefaces or interspersed remarks. Sometimes such reflections are the commentary on a particular science by those who may claim to speak with competence on the processes of the human mind, the nature of knowledge or of science in general, but who claim no special competence in the particular science under consideration. This is usually the commentary of philosophers who may assert their right to make all knowledge, as well as all reality, their province. The same man may of course be both a mathematician and a philosopher, as for example Plato, Descartes, Pascal.

In the case of mathematics, the disparity between discourse *in* and *about* the science could hardly escape notice. Even if no preliminary rule of caution were laid down, we should be struck by the contrast between the agreement mathematicians have been able to reach in the solution of their problems and the disagreement of the commentators on basic questions about mathematics. To this there may be one significant exception. Mathematics is honored for

the precision of its concepts, the rigor of its demonstrations, the certitude of its truth. Even its detractors—like Swift or Berkeley—concede the exactitude and brilliance of mathematics while questioning its utility, or they admit its intellectual austerity while challenging some application of its method. Its clearness and certainty of demonstration, Berkeley writes, is hardly anywhere else to be found.

This general agreement about the quality of mathematical thought may explain why in all epochs mathematics has been looked upon as the type of certain and exact knowledge. Some times it is taken as more than a model for other sciences; it is regarded as the method of pure science itself or as the universal science. Some times its excellences are thought to be qualified by the limited or special character of its objects, or it is contrasted with other disciplines which, employing different methods, deal with more fundamental matters, no less scientifically. But always the conclusions of mathematics serve to exemplify rational truth; always the method of mathematics represents the spirit of dispassionate thought; always mathematical knowledge symbolizes the power of the human mind to rise above sensible particulars and contingent events to universal and necessary relationships.

Mathematics means this not only to mathematicians and philosophers, but also to moralists and statesmen. The objects of geometrical inquiry, writes Alexander Hamilton, are so entirely abstracted from those pursuits which stir and put in motion the unruly passions of the human heart that mankind, without difficulty, adopt not only the more simple theorems of the science, but even those abstruse paradoxes which, however they may appear susceptible of demonstration, are at variance with the natural conceptions of such the mind without the aid

of philosophy would be led to entertain upon the subject. But in the sciences of morals and politics men are found far less tractable. Thus Hamilton points out is not due merely to the passionate interest in their problems.

It cannot be pretended, he says, that the principles of moral and political knowledge have in general the same degree of certainty with those of mathematics.

ADMIATION FOR MATHEMATICS often extends beyond enthusiasm for its exemplary virtues or delight in its intellectual beauty to the recognition of its influence on the whole history of thought. Yet here differences of opinion begin to appear.

In the ancient world Plato and Aristotle represent opposite estimates of the importance of mathematics for the rest of philosophy. For the Platonists Aristotle says mathematics has come to be identical with philosophy though they say that it should be studied for the sake of other things. He complains of those students of science who do not listen to a lecturer unless he speaks mathematically. They make the error of supposing that the minute accuracy of mathematics is to be demanded in all cases whereas according to Aristotle's own view its method is not that of natural science.

In the modern world thinkers who are both mathematicians and philosophers like Descartes and Whitehead represent a return to the Platonic point of view while Kant even more than Aristotle insists that the philosopher is grievously misled if he tries to follow the method of mathematics in his own inquiries. Whitehead charges Aristotle with having deposed mathematics from its high role as a formative element in the development of philosophy—a demotion which lasted until with Descartes and others in the 17th century mathematics recovered the importance it had for Plato.

Attempting to qualify his own enthusiasm Whitehead admits that he would not go so far as to say that to construct a history of thought without a profound study of the mathematical ideas of successive epochs is like omitting Hamlet from the play which is named after him. That would be claiming too much. But it is certainly analogous to cutting out the part of

Ophelia. This simile is singularly exact. For Ophelia is quite essential to the play she is very charming—and a little mad. Let us grant that the pursuit of mathematics is a divine madness of the human spirit—a refuge from the goading urgency of contingent happenings.

For Kant the madness lies not in the pursuit of mathematics itself but in the delusion of the philosopher that he can proceed in the same way. The science of mathematics, Kant writes, presents the most brilliant example of how pure reason may successfully enlarge its domain without the aid of experience. Such examples are always contagious particularly when the faculty is the same which naturally flatters itself that it will meet with the same success in other cases which it has had in one. The expectation naturally arises that the method of mathematics would have the same success outside the field of quantities. But philosophers who understand their own task, Kant thinks, should not be infected by the confidence of those who are masters in the art of mathematics as to their ability of achieving such success by applying its method in other fields.

The exactness of mathematics, Kant holds, depends on definitions, axioms, and demonstrations. None of these can be achieved or imitated by the philosopher in the sense in which they are understood by the mathematician, because according to Kant the validity of the mathematician's definitions and demonstrations ultimately depends on the fact that he is able to construct the concepts he uses. The point is not that mathematics obtains its objects from reason rather than experience but rather that it obtains them from reason by construction as for example Euclid begins by constructing a triangle which corresponds with his definition of that figure.

Hence Kant maintains we must not try in philosophy to imitate mathematics by beginning with definitions except it be by the way of experiment. In philosophy in fact the definition in its complete clearness ought to conclude rather than begin our work whereas in mathematics we cannot begin until we have constructed the objects corresponding to our definitions. It follows from all this, Kant concludes, that it is not in accordance with the

very nature of philosophy to boast of its dogmatical character particularly in the field of pure reason and to deck itself with the titles and ribands of mathematics

DIFFERENCES OF opinion about mathematics represent for the most part philosophical controversy concerning the nature of science or the objects of its knowledge. Mathematicians who engage in such controversy assume the role of philosophers in doing so for mathematics itself is not concerned with questions of this sort. But there are some questions about mathematics which seem to call for a close study of the science itself and even for proficiency in its subject matter and operations. They are questions about the scope of mathematics and about the divisions of the science in relation to one another and to its unity. On these issues mathematicians disagree not only with philosophers but among themselves and in their capacity as mathematicians.

These issues usually involve different interpretations of the history of mathematics. The problem is not one of the origin of mathematics.

The ancient opinion found in Herodotus, Plato and Aristotle that the mathematical arts especially geometry were first developed by the Egyptians is of interest because of the questions it raises about the circumstances of the origin of mathematics. Herodotus seems to suggest that geometry arose as an aid in the practice of surveying land. From this practice he says geometry first came to be known in Egypt whence it passed into Greece. Aristotle on the other hand separating from the useful arts those which do not aim at utility thinks the latter arose first in the places where men first began to have leisure. That is why the mathematical arts were founded in Egypt for there the priestly caste was allowed to be at leisure.

The Greek development of mathematics very early distinguishes between the pure sciences of arithmetic and geometry and their useful applications in the arts of measurement. The Greeks conceived mathematics as essentially speculative rather than practical or productive. They also divorced it from empirical investigation of the sensible world. As arithmetic is concerned with numbers not with numbered

things and geometry with figures not with physical shapes areas or volumes so Plato points out that music and astronomy belong to the mathematical sciences when they deal not with audible harmonies but with their numerical ratios not with visible celestial motions but with their geometrical configurations.

Provoked by Glaucon's interest in the usefulness of the mathematical arts, Socrates excludes their utility as being of no interest to the philosopher. He recommends arithmetic and its sister disciplines only so far as these sciences entirely ignore the world of sensible things. The reason why the philosopher who has to rise out of the sea of change and lay hold of true being

must be an arithmetician he explains is that arithmetic can have a very great and elevating effect when it compels the soul to reason about abstract number and rebels against the introduction of visible or tangible objects into the argument. In the same way only when it concerns itself with knowledge of the eternal not with measuring earthly distances will geometry draw the soul towards truth and create the spirit of philosophy. The astronomer like the geometer should employ problems and let the heavens alone if he would approach the subject in the right way and like the astronomer the student of harmony will work in vain if he compares the sounds and consonances which are heard only and so fails to reach the natural harmonies of number.

About the non empirical or non experimental character of mathematics there has been little dispute. It is seldom suggested that the growth of mathematical knowledge depends upon improvement in methods of observation. But on the relation of mathematics to physics which raises the whole problem of pure and applied mathematics or of mathematical and experimental physics there has been much controversy especially in modern times.

Bacon for example adopts the ancient division of mathematics into pure and mixed the former wholly abstracted from matter and physical axioms. Though he regards mathematics as a useful instrument in physics—the investigation of nature being best conducted when mathematics are applied to physics—he also insists upon the primacy of physics and

upon its essentially experimental character. Physics has been corrupted, he says, by logic and by mathematics when these seek to dominate instead of to serve it. It is a strange fatal irony that mathematics and logic, which ought to be but handmaids to physics, should boast their certainty before it and even exercise dominion against it.

The certainty and clarity which Hume is willing to attribute to mathematics cannot in his opinion be extended to mathematical physics. The most perfect philosophy of the natural kind, he thinks, only staves off our ignorance a little longer. Nor is geometry when taken into the assistance of natural philosophy ever able to remedy this defect or lead us into the knowledge of ultimate causes by all that accuracy of reasoning for which it is so justly celebrated. Every part of mixed mathematics, Hume continues, proceeds upon the assumption that certain laws are established by nature in her operations, and abstract reasonings are employed either to assist experience in the discovery of these laws or to determine their influence in particular instances where it depends upon any precise degree of distance or quantity. When mixed with physics, mathematics remains subordinate—at best an aid in the formulation and the discovery of the laws of nature.

A different view seems to be taken by the great mathematicians and physicists of the 17th century. Galileo, Descartes, and Newton tend to make mathematical analysis an integral part of physics. As the structure of the world is mathematical, so too must the science of nature be mathematical. Geometry, says Descartes, is the science which furnishes a general knowledge of the measurement of all bodies. If we retain the ancient distinction between geometry and mechanics, it can only be in terms of the assumption, confirmed by the usage of these names, that geometry is precise and exact while mechanics is not.

In the preface to his *Mathematical Principles of Natural Philosophy*, Newton also says that geometry is founded in mechanical practice and nothing but that part of universal mechanics which accurately proposes and demonstrates the art of measuring. What is called rational mechanics must not be confused

with the manual arts of measurement which are imperfect and inexact, and it is therefore wrong to distinguish geometry from mechanics as that which is perfectly accurate from that which is less so. But since the manual arts are chiefly employed in the moving of bodies, it happens that geometry is commonly referred to their magnitude and mechanics to their motion.

Newton himself does not abide by this distinction. His aim is to subject all the phenomena of nature to the laws of mathematics and to cultivate mathematics as far as it relates to natural philosophy. I offer this work as the mathematical principles of philosophy for the whole burden of philosophy consists in this—from the phenomena of motions to investigate the forces of nature and from these forces to demonstrate the other phenomena. He regrets that he has not been able to deduce all the phenomena of nature by the same kind of reasoning from mechanical principles.

Fourier goes even further. Mathematical analysis, he says, is as extensive as nature itself. Mathematical analysis has necessary relations with sensible phenomena. In laying hold of the laws of these phenomena, mathematics interprets them by the same language as if to attest the unity and simplicity of the plan of the universe and to make still more evident that unchangeable order which presides over all natural causes. Thus much had been said or implied by Descartes and Newton. But in addition to all this, Fourier, from his own experience in developing a mathematical theory of heat, comes to the conclusion that profound study of nature is the most fertile source of mathematical discoveries. Mathematics itself benefits from its alliance with physics; it increases in analytical power and in the generality of its formulations as physical inquiries extend the range of phenomena to be analyzed and formulated.

THE RELATIONS OF MATHEMATICS TO PHYSICS are considered in the chapters on ASTRONOMY, MECHANICS, and PHYSICS. Mathematical physics must be examined in the light of the opinion that mathematics and physics are separate sciences, distinct in object and method. I further note, whereas some of the major contributions to mathematics appear in the great books of

physics or natural philosophy (e.g. Archimedes Kepler Newton Fourier) even more fundamental formulations of the science occur in great books devoted exclusively to mathematics Euclid's *Elements* (on geometry) Apollonius' treatise *On Conic Sections* Nicomachus' *Introduction to Arithmetic* Descartes' *Geometry* and Pascal's mathematical papers. Others belonging to this latter group are listed in the Additional Readings. The great modern advances in mathematics are exemplified by the works of Gauss Lobachevski Hamilton Riemann Boole De Moivre Peano Frege Cantor Hilbert.

It would be both natural and reasonable to inquire about the relation between the great works of mathematics included in this set and the equally great treatises or monographs listed in the Additional Readings which represent for the most part the contributions of the 19th century. But since the major question which immediately confronts us in such an inquiry concerns the relation of modern to ancient mathematics we can examine the problem in terms of the works included in this set for they represent both the continuity and the discontinuity in the tradition of mathematical science.

Galileo and Newton are disciples of Euclid and Archimedes. Fourier is a disciple of Newton and Descartes. But Descartes is the great innovator. He seems to be quite self-conscious of his radical departure from the ancients and from the state of mathematics as he found it in his own day. Yet the truth and power of his mathematical discoveries seem so evident to him that he cannot doubt the ancients must have had some inkling of it.

I am quite ready to believe, he writes, that the greater minds of former ages had some knowledge of its nature even conducting them to it. We have sufficient evidence that the ancient Geometricians made use of a certain analysis which they extended to the resolution of all problems though they grudged the secret to posterity. At the present day also there flourishes a certain kind of Arithmetic called Algebra which designs to effect when dealing with numbers what the ancients achieved in the matter of figures. These two methods he claims are nothing else than the spontaneous fruit sprung from the inborn principles of the discipline here in question.

Descartes does not regard his success as consisting in the advance of mathematical truth through discoveries based upon principles or conclusions already established. Nor would he even be satisfied to say that his use of algebra in developing analytical geometry created a new branch of mathematics. Rather in his own view it tended to unify all existing branches and to form a single universal method of analysis. In effect it revolutionized the whole character of mathematics and laid the foundation for the characteristically modern development of that science since his day. To speak freely, he writes, I am convinced that it is a more powerful instrument of knowledge than any other that has been bequeathed to us by human agency as being the source of all others.

One need not quite agree with Bertrand Russell that pure mathematics was not discovered until the 19th century in order to perceive that the discoveries made in that century carry out the spirit of the Cartesian revolution. If one understands the difference between the universal mathematics of Descartes and the separate sciences of arithmetic and geometry as developed by the ancients, if one understands the difference between the theory of equations in Descartes and the theory of proportions in Euclid, if one understands how algebraic symbolism replacing numbers by letters frees both arithmetic and geometry from definite quantities, then the profound discontinuity between modern and ancient mathematics begins to be discernible.

There are other differences contributing to that discontinuity such as the modern treatment of the infinite, the invention of the calculus and the theory of functions. But what is of prime importance for the purpose of understanding the nature of mathematics, its subjects and its methods, is the perception of the discontinuity in any one or another of its manifestations. Here is a fundamental disagreement about the nature of mathematics which is not an issue between philosophers disputing the definition of the science, but rather an issue made by the actual work of mathematicians in ancient and modern times.

In his *Battle of the Books*—ancient and modern—Swift sees only the great poets and philosophers of the two epochs set against one

another. The battle between the ancient and the modern books of mathematics might be as dramatically represented. In such affairs there is a natural tendency to prejudge the issue in favor of the modern contender. That prejudice has reason on its side in certain fields of knowledge where the perfection of new instruments and the discovery of new facts work to the advantage of the latecomer. But it is questionable whether in this dispute over the nature of mathematics the same advantage prevails.

When the issue is fairly explored by an examination of the differences between the great masterpieces of ancient and modern mathematics it may be found impossible to say that truth lies more on one side than on the other, or that one conception of mathematics is more fruitful than another, because the two versions of the science may seem to be incommensurable in their aims, methods, and standards of accomplishment.

ONE EXAMPLE WILL illustrate this incommensurability. The ancient notion of number as may be seen in Nicomachus' *Introduction to Arithmetic* limits the variety of numbers. A number always numbers a number of things, even though we can deal with the number itself apart from any set of numbered things. It is always a positive and integral quantity which, excepting unity itself, the natural starting point of all numbers, contains a multitude of discrete units.

Numbers are classified according to the way in which they are constituted of parts and according to the constitution of these parts. The primary division of numbers is into even and odd. "The even is that which can be divided into two equal parts without a unit intervening in the middle, and the odd is that which cannot be divided into two equal parts because of the aforesaid intervention of a unit."

The even numbers are capable of subdivision into the even times even, the odd times even, and the even times odd, and the odd into the prime and incomposite, the secondary and composite, and the number which in itself is secondary and composite but relatively is prime and incomposite. The peculiarities of these types of number are explained in the chapter on QUANTITY. There are still further classifica-

tions of numbers into superabundant, deficient, and perfect, and of the parts of numbers in relation to the numbers of which they are parts.

Finally, numbers are considered in terms of their geometrical properties, to be observed when their units are disposed discretely in spatial patterns and in one, two, or three dimensions. There are linear, plane, and solid numbers, and among plane numbers, for example, there are triangular, square, pentagonal, hexagonal numbers, and so on.

The arithmetic operations of addition, subtraction, multiplication, and division are performed in the production of numbers or in the resolution of numbers into their parts. But though any two numbers can be added together or multiplied, the inverse operations cannot always be performed. A greater number cannot be subtracted from a less; for subtraction consists in taking a part from the whole and leaving a positive remainder. Since division is the decomposition of a number into its parts, a number cannot be divided by one greater than itself; for the greater cannot be a part of the less.

In short, in Nicomachus' theory of numbers what later came to be treated as negative numbers and fractions can have no place. Nicomachus will not carry out arithmetical operations in all possible directions without regard to the result obtained. He refuses to perform these operations when the results which would be obtained do not have for him the requisite mathematical reality. He does not find it repugnant to reason that subtraction and division, unlike addition and multiplication, are not possible for any two numbers, as, for example, subtracting a larger from a smaller number, or using a divisor which does not go into the dividend evenly, and so leaves a fractional remainder. On the contrary, Nicomachus finds it repugnant to reason to perform these operations in violation of the proper meaning and to produce thereby results such as negative quantities and fractions, which are for him not numbers, *i.e.* which cannot number any real thing.

Understanding the nature of square numbers, Nicomachus would be able to understand a square root, but he would not see why the operation of extracting the square root should be



applied to numbers which are not square. Hence another kind of modern number—the irrational fraction which is generated by such operations as the extraction of the square of positive integers which are not perfect squares would never appear in Nicomachus' set of numbers nor would the imaginary number which is the result of applying the same operation to negative quantities.

When the arithmetical operations are performed algebraically with unknowns as well as definite quantities the solution of equations requires the employment of terms which Nicomachus would not admit to be numbers—negatives, fractions (both rational and irrational), imaginaries and complex numbers which are partly real and partly imaginary. Descartes finds nothing repugnant in these novel quantities. On the contrary, he would find it repugnant not to be able to perform the basic arithmetical operations without restriction. Algebra would be impossible and with it the general method of analysis that proceeds in terms of the purely formal structure of equations from which all definite quantities have been excluded. It would also be impossible to do what Descartes thinks essential to the unity of mathematics, namely to represent geometrical operations algebraically and to perform most algebraic operations geometrically.

Geometrical loci cannot be expressed by algebraic formulae or equations unless there are as many numbers as there are points on a line. The number series for Nicomachus without fractions and irrationals is neither dense nor continuous. There are fewer numbers than there are points on a line. And without the use of zero, negative numbers and fractions—none of which would be regarded as numbers by Nicomachus—it would be impossible for Descartes to construct a set of coordinates for the geometrical representation of equations where by all the points in a plane have their unique numerical equivalents.

The Cartesian synthesis of algebra and geometry which in his view vastly increases the power of each, violates the ancient distinction between continuous and discontinuous quantities—magnitudes (like lines and planes) and multitudes (or numbers). Euclid, for example, treats the irrational or the incommensurable

always as a relation of magnitudes, never of multitudes or numbers. For him certain geometrical relationships cannot be expressed numerically. Arithmetic and geometry are not even coordinate, much less co-extensive sciences. Arithmetic is the simpler, the more elementary science and is presupposed by geometry.

Other examples arising from the innovations of Descartes might be employed to show the chasm between the arithmetic and geometry of the ancients and modern mathematics—such as the treatment of infinite magnitudes and numbers, the theory of functions and the method of the calculus. But the multiplication of examples does not seem necessary to suggest that there may be no answer to the question: Is Descartes right and Nicomachus and Euclid wrong? or to the question: Are the modern innovations improvements or corruptions of the mathematical arts and sciences?

These questions are not like questions concerning the truth or falsity of a proposition in mathematics or the validity of a proof. A given theorem in Euclid must, in the light of his definitions, axioms and postulates, be either true or false and accordingly Euclid's demonstrations or constructions are either cogent or fallacious. The same rules apply to Descartes. But whether Euclid's or Descartes' conception of the whole mathematical enterprise is right seems to present a choice between disparate worlds, a choice to be made by reference to principles and purposes which are themselves not mathematical.

Modern mathematics may be much more useful in its physical applications, especially in the analysis and calculation of variable notions or quantities. It may have a special elegance and simplicity as well as greater unity and even systematic rigor. But it may also purchase these qualities at the expense of the kind of intelligibility which seems to characterize ancient mathematics as a result of the insistence that its objects have an immediately recognizable reality. Ancient mathematics never occasioned such an extreme remark as that made by Bertrand Russell about modern mathematics—that it is the science in which we never know what we are talking about, nor whether what we are saying is true.

THE QUESTION OF the reality of the objects of mathematics is in part a problem for the mathematician and in part a question for the philosopher. The problem for the mathematician seems to be one of establishing the existence of the objects he defines. This can be illustrated by reference to Euclid's *Elements*.

The basic principles as Euclid expounds the science seem to be threefold: definitions, postulates, and axioms or common notions. The axioms are called common notions because they are truths common to other branches of mathematics as well as to geometry. The common notions are called axioms because their truth is supposed to be self-evident. In contrast the postulates are peculiar to geometry for they are written as rules of construction. They demand that certain operations be assumed possible, such as the drawing of a straight line or a circle, or the transposition of a figure from one portion of space to another without alteration of its form or quantity.

Euclid's definitions include the definition of a straight line and a circle. His first two postulates therefore seem to ask us to assume that space is such that these defined geometrical objects exist in it as they are defined, or in other words, that objects corresponding to the definitions have geometrical reality. But there are many definitions—of a triangle, of an equilateral triangle, of a parallelogram—for which Euclid states no postulate demanding that we assume the geometrical reality of the object defined. Hence before he undertakes to demonstrate the properties of these figures, he finds it necessary to prove that they can be constructed. Until they are constructed, and the construction demonstrated, the definitions state only possibilities to which no geometrical realities are known to correspond in the space determined by Euclid's postulates.

In his first constructions Euclid can employ only the definition of the figure itself, his axioms, and those postulates which permit him to use certain mechanical devices—the straight edge and the compass, which are the mechanical equivalents of his postulates that a straight line can be drawn between any two points and a circle described with any radius from any point upon a plane. When, for example, in the first proposition of Book I, Euclid thus demon-

strates the construction of an equilateral triangle, he has proved the geometrical existence of that figure, or in other words, its reality in the space of his postulates.

A number of questions can be asked about this and many other similar demonstrations. The postulates being assumptions, their truth can be questioned, and an effort made to prove or disprove them. This type of questioning led to the development of the non-Euclidean geometries. After centuries of trying unsuccessfully to prove Euclid's postulate about parallel lines, geometers like Lobachevski and Riemann postulated other conditions concerning parallels, with consequences for the properties of other geometrical figures.

The interior angles of a Euclidean triangle, for example, equal the sum of two right angles; in certain non-Euclidean triangles they add up to more or less than two rights. One interpretation of this situation is that the truth of conclusions in geometry is entirely dependent on arbitrary assumptions. Another is that the several variants of the parallel postulate indicate the selection of different spaces in which to construct figures, and under each set of spatial conditions postulated, there is only one body of geometrical truths concerning the properties of the figures therein constructed.

Another type of question concerns the logical as opposed to the geometrical conditions of geometrical proof. In his essay *On Geometrical Demonstration*, Pascal declares the geometric method to be the most perfect available to men, for it consists not in defining or in proving everything, nor in defining or proving nothing, but in maintaining itself in the middle ground of not defining things which are clear to all men and in defining all others, and not proving everything known to men, but in proving all the other things. This method it seems is not restricted to the subject matter of geometry; to Descartes and Spinoza, at least, it seems to be the method for demonstrating any theoretical truth. Descartes presents arguments demonstrating the existence of God and the distinction between soul and body drawn up in geometrical fashion; and as its title page indicates, the whole of Spinoza's *Ethics* is set forth in geometrical order.

It may be questioned wh

which Descartes adds to his definitions and axioms or those which Spinoza introduces beginning with Proposition 13 of Book II function as postulates do in geometry *sc.* as rules of construction it may similarly be questioned whether Spinoza is following the geometrical method in Book I where he proceeds without any postulates at all. But the more general question concerns the criteria for testing the consistency and the adequacy of the primitive propositions—the definitions axioms postulates—laid down as the foundation for all that is to be demonstrated. The investigation of this problem calls for an examination of the whole process of proof from which has developed the modern theory of mathematical logic that challenges the universality and adequacy of the traditional logic of Aristotle and asserts that mathematics and logic are continuous with one another—essentially the same discipline.

THE ISSUES raised by mathematical logic or the logic of mathematics are considered in the chapters on *HYPOTHESIS* *LOGIC* and *REASONING*. Here we must turn finally to one other question which is of interest principally to the philosopher rather than the mathematician. It concerns the objects of mathematics. It is a question about their reality or mode of existence which cannot be answered by the mathematical proof of a construction.

When for example Euclid constructs an equilateral triangle the figure established can not be the one imperfectly drawn upon paper. The postulated permission to use a ruler and compass does not remove the imperfection of these mechanical instruments or the inaccuracy in their physical use. The triangle whose properties the geometer tries to demonstrate must be perfect as no actually drawn figure can be. The philosophical question therefore concerns the reality or existence of this ideal perfect figure. The same question can be asked about pure numbers—numbers apart from all numbered things.

Are the objects of mathematics purely intelligible beings existing apart from the sensible world of material things? Or are they ideal entities—not in the sense of existing outside the mind but in the sense of being ideas in the mind itself rather than perceptible particulars?

As indicated in the chapters on *BEING* *FORM* and *IDEA* Plato and Aristotle seem to answer these questions differently. But there are further differences among those who regard mathematical objects as having being only in the mind.

Aristotle Aquinas Locke and James for example think of the objects of mathematics as universals formed by abstraction from the particulars of sense and imagination. The mathematical such as numbers and figures Aquinas writes do not subsist as separate beings. Apart from numbered things and physical configurations numbers and figures

have a separate existence only in the reason in so far as they are abstracted from motion and matter. Hobbes Berkeley and Hume on the other hand deny abstract ideas or universal concepts. Let any man try to conceive a triangle in general Hume declares which is neither *isosceles* nor *scalenum* nor has any particular length or proportion of sides and he will soon perceive the absurdity of all the scholastic notions with regard to abstraction and general ideas.

Despite these differences there seems to be general agreement in the tradition of the great books that the truths of mathematics are rational rather than empirical or in the language of Kant and James *a priori* rather than *a posteriori*. But the meaning of this agreement is not the same for those who think that truth in mathematics does not differ from truth in other sciences and those who think that mathematical truths stand alone precisely because they are not about matters of fact or real existence.

Plato for whom all science is knowledge of purely intelligible objects regards the mathematical sciences as inferior to dialectic in the knowledge of such objects because they start from hypotheses and do not ascend to principles. The students of such sciences Plato writes assume the odd and the even and the figures and three kinds of angles and the like in their several branches of science these are their hypotheses which they and everybody are supposed to know and therefore they do not deign to give any account of them either to themselves or others but they begin with them and go on until they arrive at last and in a consistent manner at their conclusion.

For Aristotle what differentiates mathematics from physics and metaphysics is the special character of its objects. Physics and metaphysics both deal with substances as they exist outside the mind whereas the objects of mathematics are abstractions. Though figures and numbers are inseparable in fact from material substances they are separable from any particular kind of body by an effort of abstraction. This does not deny for example that physical things have perceptible figures. It merely insists that the geometer does not treat figures *as* sensible but *as* intelligible that is as abstracted from matter. Nevertheless the truths of mathematics no less than those of physics and metaphysics apply to reality. All three sciences are further alike in demonstration in their conclusions rationally rather than by experiment. All three employ induction to obtain their principles though metaphysics alone attains to the first principles of all science.

For Kant mathematical cognition is cognition by means of the construction of conceptions. To explain this he cites the example of the construction of a triangle. I construct a triangle by the presentation of the object which corresponds to this conception either by mere imagination (in pure intuition) or upon paper (in empirical intuition) in both cases completely *a priori* without borrowing the type of that figure from any experience. We keep our eye merely on the act of the construction of the conception and pay no attention to the various modes of determining it for example its size the length of its sides the size of its angles. The *a priori* character of such intuitions on which rests the *a priori* character of mathematical truths does not mean that mathematics has no relevance to experience. Arithmetic and geometry are like physics according to Kant they are sciences of experience of nature but like pure (as opposed to empirical) physics they are *a priori* sciences. Since Kant holds that experience itself is constituted by *a priori* forms of perception he can ascribe the validity which mathematics has for all possible experience to the *a priori* intuition of the pure forms of phenomena—space and time.

Bertrand Russell rejects this Kantian view which [asserts] that mathematical reasoning is not strictly formal but always uses intuitions

ie the *a priori* knowledge of space and time. Thanks to the progress of Symbolic Logic this part of the Kantian philosophy Russell holds is now capable of a final and irrevocable refutation. Leibnitz before Kant had advocated the general doctrine that all mathematics is a deduction from logical principles but according to Russell he had failed to substantiate this insight partly because of his belief in the logical necessity of Euclidean geometry. The same belief is in Russell's opinion the cause of Kant's error. The actual propositions of Euclid do not follow from the principles of logic alone and the perception of this fact he thinks led Kant to his innovations in the theory of knowledge. But since the growth of non Euclidean geometry it has appeared that pure mathematics has no concern with the question whether the axioms and propositions of Euclid hold of actual space or not.

Russell asserts that by the help of ten principles of deduction and ten other premises of a general logical nature (eg implication is a relation) all mathematics can be strictly and formally deduced. He regards the fact that all Mathematics is Symbolic Logic as one of the greatest discoveries of our age and when this fact has been established the remainder of the principles of Mathematics consists in the analysis of Symbolic Logic itself. Though this view of mathematics may not be worked out in detail except in such treatises as Russell's *Principles of Mathematics* and in the *Principia Mathematica* on which he collaborated with Whitehead the conception of mathematics as a purely formal science analogous to (if not identical with) logic does have some anticipations in the great books. For James as for Locke and Hume mathematics is strictly a science of the relations between ideas not of real existences. As regards mathematical judgments James writes they are all rational propositions for they express results of comparison and nothing more. The mathematical sciences deal with similarities and equalities exclusively and not with coexistences and sequences. Both James and Locke however differ from Hume in thinking that there are sciences other than those of number and quantity which can demonstrate their conclusions with certitude.

The foregoing discussion indicates *some* of the differences among philosophers concerning the objects of mathematics the conditions of its truth and its relation to other sciences. These disagreements do not seem to take the form of an opposition between ancient and modern thought like that between ancient and modern mathematicians concerning the nature of their science. The two oppositions do not run parallel to one another.

On the contrary the objections which mod-

ern philosophers especially Berkeley Hume and Kant raise against the notion of infinite quantities seem to favor the ancient rather than the modern tenor of mathematical thought. Though the reasons they give do not derive from the same principles as those to which Plato and Aristotle appeal they like the ancients appear to insist upon a certain type of intelligibility in the objects of mathematics which seems to have been sacrificed in the mathematical development initiated by Descartes.

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Iliad* bk 11 [265 283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PART SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53/a res *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b-164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR & DIVISIONS.** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* bk 11 [265 283] 12d.

**BLUE REFERENCES.** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Isaiah* ch 45--(D) *Isaiah* 7:46.

**SYMBOLS.** The abbreviation esp calls the reader's attention to one or more especially relevant parts of a whole reference. *passim* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

- 1 The science of mathematics its branches or divisions the origin and development of mathematics

5 ARIOTUS *Prometheus Bound* [442 472] 44c d esp [459-460] 44d.

6 HERODOTUS *History* bk 11 70b-c.

7 PLATO *Charmides* 72d 8a / *Phaedrus* 138c d / *Gorgias* 254a-c / *Republic* bk vi 391b-397a / *Timaeus* 451b c / *Statesman* 581a / *Philebus* 633b 634b.

8 ARISTOTLE *Prior or Analytic* bk 1 ch 7 103c d ch 27 139b / *Metaphysics* bk 1 ch 1 [931-934] 500a ch 9 [931-934] 510c bk 11 ch 3 513c d.

11 NICOMACHUS *Arithmetic* bk 1 812b 813d bk 11 811d-812a.

16 PTOLEMY *Almagest* bk 1 5a 6a.

18 COPERNICUS *Revolutions of the Heavenly Spheres* bk 1 510a b.

17 PROCLUS *First Enchiridion* bk 11 250c d.

18 AUGUSTINE *Christian Doctrine* bk 11 ch 36 654b-c.

19 AQUINAS *Summa Theologiae* p 1 q 11 935 a 8 ans 799c 780c.

21 HORACE *Levathan* part 1 72a d art 17 268c d 269b.

30 BACON *Advancement of Learning* 46a-c.

31 DESCARTES *Rules* iv 5c d 5e 7c xiv 310 32a / *Discourse* part 1 43b-c part 11 47b d.

31 SINGULAR *Ethics* part 1 appendix 370b-c.

34 NEWTON *Principles* 1a b.

35 LOCKE *Human Understanding* bk iv ch 11 sect 7 360b-c sect 15 363a b.

35 HUME *Human Understanding* sect iv div 20 458b sect vii div 48 470d 471c sect xii div 131 508d 509a.

41 GARDNER *On Love and Fall* 290a 299b.

42 KANT *Pure Reason* a 5d 6b 17d 18d 46a c 68a-69c esp 68 69a 211c 218d / *Practical Reason* 295b d 330d 331a / *Judgement* 553d [in 1].

46 HEGEL *Philosophy of Right* additions 40 122d 123b / *Philosophy of History* part 1 219a.

53 JAMES *Psychology* 874a 878a.

- 1a The distinction of mathematics from physics and metaphysics its relation to logic

7 PLATO *Euthydemus* 75b / *Republic* bk vi 385d 388a bk vii 391b 392c.

8 ARISTOTLE *Prior or Analytic* bk 1 ch 22 [727-734] 107a [78 10-13] 107b-c / *Physics* bk 11 ch 2 [193] 319a 11 270a-c ch 9 [200 15 29] 277c-d / *Metaphysics* bk 1 [273-32 280-1] 321b-c / *Metaphysics* bk 1

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9 ARISTOTLE *Ethics* BK VI CH 8 [1142<sup>a</sup>12 19]  
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16 PROBLEMY *Almagest* BK I 5a 6a

19 AQUINAS *Summa Theologiae* P RT I Q I A I  
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20 AQUINAS *Summa Theologiae* PART II Q 9  
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23 HOBBS *Leviathan* PART I 56b 57a 58c  
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33 PASCAL *Geometrical Demonstration* 445a b

34 NEWTON *Principles* 1a 2a

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35 HUME *Human Understanding* SECT VII DIV  
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42 KANT *Pure Reason* 5a 9a 15c 16c 17d 19a  
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53 JAMES *Psychology* 867a 870a esp 869a 870a

- 16 The service of mathematics to dialectic and philosophy in liberal education

7 PLATO *Republic* BK VI 386d 388a BK VII  
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11 NICOMACHUS *Arithmetic* BK I 811a 813d

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16 KEPLER *Epitome* BK IV 863b 872b *passim*

17 PLOTINUS *First Ennead* TR III CH 3 10d 11a

18 AUGUSTINE *Confessions* BK IV PAR 30 26b-c  
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34 NEWTON *Principles* 1b 2a

36 SWIFT *Gulliver* PART III 97a b

42 KANT *Pure Reason* 15c 16c 46a c 211c 218d  
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51 TOLSTOY *War and Peace* BK I 47b-48d

53 JARVIS *Psychology* 882a 883a

- 1c The certainty and exactitude of mathematical knowledge the *a priori* foundations of arithmetic and geometry

7 PLATO *Philosophy* 633b 634b

8 ARISTOTLE *Poetics* *Athetics* BK I CH 27  
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9 ARISTOTLE *Ethics* BK I CH 3 [1094<sup>a</sup>12 28]  
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11 NICOMACHUS *Arithmetic* BK I 811a 814b

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28 GALILEO *Two New Sciences* FOURTH DAY  
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30 BACON *Advancement of Learning* 61b c 65b  
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31 DESCARTES *Rules* I 2a 3b IV 5a 7d / *Discourse* PART I 43b c PART II 47b c PART IV  
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- 7 PLATO *Meno* 180b-183c / *Republic* BK VI  
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- 8 ARISTOTLE *Posterior Analytics* BK I CH 18  
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18 AUGUSTINE *Confession* bk i par 19 76a b  
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8 ARISTOTLE *Categor* i ch 5 [3<sup>b</sup> 34 9] 8a b  
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- 35 HU IE *Human Understandi g* SECT IV DIV 20  
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- 42 KANT *Pure Reason* Sa 8d 17d 18d 46a b  
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- 43 MILL *Liberty* 283d 284a
- 45 LAVOISIER *Elements of Chemistry* PREF 2b
- 45 FOURIER *Theory of Heat* 172a 173b
- 51 TOLSTOY *War and Peace* BK XI 469a d  
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- 53 J IES *Psychology* 175a 176a 874a 878a
- 3a The cond tions and character of demonstra-  
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- 7 PLATO *Meno* 183b-c / *Republic* BK VI 386d  
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- 8 ARISTOTLE *Prior Analytcs* BK I CH 41 [49<sup>b</sup>  
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- 9 ARISTOTLE *Gener tion f Animals* BK I CH 6  
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- 11 EUCLID *Elements* Ia 396b p BK I DEF XI  
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- 11 A CH ED *Sphere d Cyl nder* BK I DEFINI-  
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- 19 AQU I *Summa The l gica* PA T I Q 85  
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- 33 PASCAL *Pensée* 1-5 171a 173a / *Vacuum* 365b 366a 373a b / *Geometrical Demonstration* 430a-434a 442a-446b / *Arithmetical Triangle* 451b 452a 458b-459b 464a-466a

- 34 NEWTON *Principles* 1a b

- 34 HUYGENS *Light* PREF 551b 552a

- 35 LOCKE *Human Understanding* bk ii ch vii sect 4 166a b bk iv ch i sect 9 308c 309b ch ii sect 9 10 311b c ch iii sect 29 322c ch vii sect 11 340c 341a ch xii sect 1-3 358c 360c *passim* sect 14 15 362d 363b

- 35 BERKELEY *Human Knowledge* INTRO sect 12 408a b sect 15 16 409a d sect 18 436b-c

- 35 HUME *Human Understanding* sect vii div 48 470d 471c sect x div 13a 508d 509a

- 42 HANT *Pure Reason* 17d 18d 46a b 68a 69c 91c d 110a 110d 111a 211c 218d / *Pure Reason* 302d 303b 330d 331a / *Pure Meta-physical Elements of Ethics* 376c d

- 43 FEDERALIST NUMBER 3 103c

- 43 MILL *Utilitarianism* 445b c

- 43 LAVOISIER *Elements of Chemistry* PREF 2b

- 53 JAES *Psychology* 869a 870a 874a 878a

- 3b The role of construction: its bearing on proof mathematical existence and the scope of mathematical inquiry

- 7 PLATO *Meno* 180b 182 / *Republic* bk vi 387b-c

- 8 ARISTOTLE *Heaven* bk i ch i [279<sup>b</sup> 32a 280 12] 371b c / *Metaphysics* bk ix ch 9 [1051 22 34] 577b e

- 11 EUCLID *Elements* bk i POSTULATES 1 3 2a PROP 1 2b 3a

- 23 HOBBS *Leviathan* PART IV 267a b

- 31 DESCARTES *Rule* xiv xviii 28a 39d / *Geometry* bk ii 304a 306a 316a b bk iii 331b-332b

- 33 PASCAL *Vacuum* 373a b

- 34 NEWTON *Principles* 1a b

- 42 HANT *Pure Reason* 31b-d 68a 69c 86b c 91c d 94b 95a 211c 215a 217e d / *Science of Right* 399a b / *Judgement* 551a 553c

- 53 JAMES *Psychology* 673b

- 3c Analysis and synthesis function and variable

- 9 ARISTOTLE *Ethics* bk iii ch 3 [1112<sup>b</sup> 20-24] 358d

- 11 ARCHIMEDES *Sphere and Cylinder* bk ii PROP 1 434b 435b PROP 3-7 437a-443b / *Method* 569b 570a PROP 1 572b

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- 35 LOCKE *Human Understanding* bk iv ch xii

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I Works by authors represented in this collection

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## Chapter 53 MATTER

### INTRODUCTION

AFTER we came out of the church says Boswell in his *Life of Johnson* we stood talking for some time together of Bishop Berkeley's ingenious sophistry to prove the non-existence of matter and that every thing in the universe is merely ideal. I observed that though we are satisfied his doctrine is not true it is impossible to refute it. I shall never forget the alacrity with which Johnson answered striking his foot with mighty force against a large stone till he rebounded from it. I refute it thus.

But Berkeley's argument anticipated Dr Johnson's style of refutation. I do not argue he says against the existence of any one thing that we can apprehend either by sense or reflexion. That the things I see with my eyes and touch with my hands do exist really exist. I make not the least question. The only thing whose existence I deny is that which philosophers call Matter or corporeal substance. And in doing this there is no damage done to the rest of mankind who I dare say will never miss it.

The rest of mankind does need to be instructed however that when they use the word matter they speak of *nothing*. They may from careless habit suppose they are referring to the most obvious something there is in the world—the solid massy concrete stuff of which tangible visible movable and moving things are made. Of them Berkeley would ask how they know such stuff exists. It is not itself perceptible.

We perceive a variety of qualities—colors shapes temperatures textures sizes or extensions—but these Berkeley argues have their being in being perceived. Even if certain of these sensible qualities sometimes called primary such as figure size or weight are supposed to belong to bodies when they are not actually being sensed they are not matter but only its properties. Matter itself is not sensible. Those

who assert its existence postulate it as a substratum or support for the sensible qualities they perceive.

The question therefore is whether such a substratum is a necessary or an unnecessary hypothesis. Berkeley does not deny the existence of beings which cannot be directly sensed. He affirms the existence of the human spirit or mind of minds other than his own and the spiritual being of God. These must be inferred to exist in order to explain the phenomena of our sensible experience and the experience of our own activities in thinking imagining willing. If in addition the existence of matter or a material substance were necessary to explain the phenomena Berkeley would not object to affirming its existence by inference even if it could in no way be directly perceived.

His argument therefore involves first a denial of Locke's distinction between primary and secondary qualities. Supposing it to be generally agreed that colors sounds odors have no actual existence except in the perceiving mind he denies that perceptible figure size or motion can exist otherwise. It having been shown that none even of these can possibly exist otherwise than in a Spirit or Mind which perceives them it follows that we have no longer any reason to suppose the being of Matter.

Matter is not needed as a substratum or support for the qualities we perceive. This is the second main point in Berkeley's argument.

Though we give the materialists their external bodies they by their own confession are never the nearer knowing how our ideas are produced since they own themselves unable to comprehend in what manner body can act upon spirit or how it is possible it should imprint any idea in the mind. Hence it is evident that the production of ideas or sensations in our minds can be no reason why we should suppose Matter or



corporeal substances since that I acknowledged to remain equally inexplicable with or without this supposition

BERKELEY'S ARGUMENTS against matter which occupy the greater part of his *Principles of Human Knowledge* may not have the same force when they are applied against different theories of matter. Berkeley seems to regard his attack on materialism as the refutation of an error at the root of skepticism, atheism and irreligion. He also thinks materialism creates difficulties for the sciences. But are all affirmations of matter to be lumped together as materialism in the same sense? Are Aristotle, Plotinus, Descartes, Spinoza and Locke materialists in the same sense as Lucretius, Hobbes and perhaps Marx? Does it make no difference whether bodies are said to be the only real existences or whether in addition to bodies immaterial substances or spiritual beings are also said to exist?

Does it make no difference how matter is conceived—whether as a self-subsistent substance in its own right capable of existing apart from any qualities except extension and motion which belong to its very essence or merely as one factor in the constitution of bodies, the factor of potentiality which as will be presently explained has no existence apart from the forms which actualize it? Are skepticism, atheism and irreligion to be associated with all affirmations of matter in view of the fact that theologians like Augustine and Aquinas seem to think that a sound view of matter supports the truths of religion against the errors of the materialists?

There seem to be in short three distinct positions to which Berkeley's blanket denial of matter stands opposed. The diametrically opposite view seems to be the blanket denial of anything except bodies or of anything which cannot be reduced to a property or function of matter. The atomism of Lucretius discussed in the chapter on ELEMENT may be taken as representative of this view though Engels would insist that materialism can be dialectical rather than atomistic or mechanical.

Between the two extremes there appear to be two middle positions which are alike insofar as both affirm the immaterial as well as the material. Although they are alike in asserting

the existence of spiritual substances they may of course define the nature of these immaterial things differently and differently interpret their relation to the realm of matter. But as theories of matter their principal difference consists in the way in which they conceive the being of bodies, material substances or the bodily mode of substance.

In the conceptions of Descartes and Locke for example it is matter which gives actuality to sensible bodies. We have no other idea or notion of matter. Locke writes but something wherein those many sensible qualities which affect our sense do subsist. The entire substance of sensible bodies consists of matter. All their properties derive from the essence or nature of matter. But in the conceptions of Aristotle and Plotinus bodies would not exist at all if they were composed only of matter for matter is no more than a capacity for being not something which by itself actually is. Sensible bodies derive their being and all their attributes from the forms which matter assumes when its potentialities are actualized. Matter totally devoid of form is not the *nothing* Berkeley calls it but it is so near to nothing that Plotinus says it is more plausibly called a non-being—a bare aspiration towards substantial existence.

These theories of matter or corporeal being seem to be as contrary to one another as to whether they are contrary to Berkeley's doctrine. Yet each of the two middle positions leans toward one of the opposite extremes.

The conception of matter seems to be very much the same in the complete materialism of Lucretius and Hobbes and in the view of Descartes, Spinoza and Locke. In the former only bodies exist. In the latter bodies do not comprise the whole of existence but matter is the whole substance of bodies. The separation of body and mind or matter and spirit into distinct substances or modes of substance leaves matter the same kind of stuff that it is in a world which admits of no other reality. Atomism furthermore may be common to both theories at least to the extent that it is held that the complex bodies we perceive are composed of minute and insensible particles. Unlike Lucretius, Locke may not insist upon the absolute indivisibility of the particles or upon the eternity of the uncreated atoms of matter.

but he like Hobbes and Newton carries the division of the familiar bodies of sense experience down to parts which cannot be perceived and yet have in a way a more ultimate reality as units of matter than the complex bodies they constitute.

Had we senses acute enough to discern the minute particles of bodies and the real constitution on which their sensible qualities depend, Locke writes, I doubt not but that would produce quite different ideas in us and that which is now the yellow color of gold would then disappear and instead of it we should see an admirable texture of parts of a certain size and figure.

At the other extreme Berkeley's complete denial of matter has less in common with the view of Aristotle, Plotinus, Augustine and Aquinas than the theory of Descartes, Spinoza and Locke has with the materialism of Lucretius and Hobbes. They would appear to be close enough for one seems to hold that matter is almost non-being and the other that matter is simply nothing at all. But where Berkeley denies any role to matter, Aristotle and those who take his view affirm matter to be an indispensable factor in the constitution of physical things. They do not question the reality of bodies or their existence apart from mind. On both of these points they are as opposed to Berkeley as they would be if they were complete materialists. Nevertheless they lean toward Berkeley rather than toward the other extreme in one respect. Where Berkeley denies the existence of matter, they deny its substantiality. Where Berkeley says matter has no being, they say it has the lowest grade of being—on the very verge of not being!

IN SPITE OF ALL the differences noted, the idea of matter has a certain constant meaning throughout the tradition of the great books.

It is generally associated with the idea of quantity and especially the basic magnitudes such as time, space and mass. Sometimes it is said that the essence of matter itself is extension, sometimes that bodies—not matter itself—have the property of tridimensionality. But in either case that which *is* or *has* matter in it necessarily occupies space.

The manner of that occupation is also gener-

ally agreed upon. Two bodies or two distinct quantities of matter cannot occupy the same place at the same time. A body may not be impenetrable in the sense of being indivisible, but so long as it remains the whole that it is, it offers resistance to other bodies tending to move into the place it occupies.

There is another connection between matter and quantity. To those who ask what makes two otherwise identical things two in number—or what is involved in the merely numerical difference of things alike in every other respect—the usual answer is in terms of matter. Matter is traditionally spoken of as the principle of individuation. Aquinas for example holds that angels, unlike physical substances, cannot differ from one another as do numerically distinct individuals. Because they are immaterial, they can differ only as do species or kinds. Such things agree in species, he writes, but differ in number, agree in form, but are distinguished materially. If therefore the angels be not composed of matter and form, it follows that it is impossible for two angels to be of one species, just as it would be impossible for there to be several whitenesses apart or several humanities, since whitenesses are not several except in so far as they are in several substances.

The way in which matter is related to individual differences can be exemplified in works of art. Two coins stamped out of the same kind of matter by the impression of the same die may differ in no other discernible respect than that they are *two* of the same kind. Their *twoness* seems to be somehow related to the fact that each consists of a distinct quantity of matter. But it may be asked how two units of matter have the distinction of being two while they differ in no other respect. One answer to this difficult question is that their distinction consists in their occupying different places. In the Platonic theory of the origin of many particulars all participating in the same form, diversity of place seems to play the role which matter plays for Aristotle and Aquinas.

Plato's doctrine of the receptacle, which is discussed in the chapter on FORM, is sometimes interpreted by conceiving the receptacle as space and sometimes by conceiving it as matter. The receptacle, it is said in the *Timaeus*, is that which while receiving all things never

departs at all from her own nature and never in any way or at any time assumes a form like that of any of the things which enter into her. This according to Plotinus means that its one form is an invincible formlessness.

But Plotinus, who combines Plato's doctrine of the receptacle and the forms with Aristotle's theory of potentiality and actuality, holds that it is matter, not space, which is the receptacle and nurse of all generation. He says that recipient and nurse is a better description of matter than the term mother, for that term is used by those who think of a mother as matter to the offspring as a container only giving nothing to them. In his own view matter is more than space or mere receptivity. He is willing to admit the parallel with motherhood only to the extent that matter is sterile, not female to full effect, female in receptivity only, not in pregnancy.

TRADITIONALLY the distinction between universal and particular is understood as a distinction between the intelligible and the sensible. This indicates another traditional meaning of matter or the material. The realm of sensible things is the realm of bodies. But the atoms, which are the elementary bodies, are also usually called insensible particles of matter. This, however, can be interpreted to mean not that a definite material mass or bulk is in itself absolutely *intangible* or *imponderable*, but that because of the limitation in our senses it is imperceptible to us. On this interpretation it would then seem possible to say that *all* bodily existence is sensible existence.

But if we ask about the sensibility of matter itself rather than of bodies large or small, questions arise which are more difficult to solve. On one theory of matter, matter devoid of form is as insensible as it is unintelligible; yet forms which are not material, that is, not in matter, are also insensible but not unintelligible. On the contrary, they are regarded as more perfectly intelligible than embodied forms. How, then, does matter, which is itself insensible, cause the forms which it assumes to become sensible when they are materialized?

The theory of matter which does not regard it as a co-principle with form seems to be confronted with a different problem of sensibility.

It is supposed that some of the qualities which we sense in bodies are actually in them whether we sense them or not—such properties as size, figure, weight, motion. Other sensible qualities, such as colors, odors, temperatures, or sounds, are supposed to be effects produced by the motions of material particles acting on the sensitive apparatus of animals. This distinction between what Locke calls primary and secondary qualities—found also in Lucretius and Descartes—is more fully considered in the chapters on *QUALITY* and *SENSE*, but here it calls attention to the problem of how matter, devoid of certain sensible qualities, causes these qualities to arise.

For Lucretius the peculiar difficulty of the problem seems to lie in the fact that the sensitive animal is itself nothing but a material system. All its powers and acts are conceived as functions of matter in motion. How, then, does moving matter within the organism generate certain qualities which do not belong to moving matter outside the organism? For Locke the problem raises a difficulty of still another sort. Secondary qualities, such as colors, sounds, odors, exist only as sensations in the mind. In corporeal substances or bodies such qualities, he writes, are nothing but the powers those substances have to produce several ideas in us by our senses, which ideas are not in the things themselves, otherwise than as anything is in its cause. Though they result from the impact of moving particles on the bodily sense organs, they do not belong to the world of matter at all, but to the realm of spirit. How, then, do the motions of matter cause effects which exist only in the immaterial domain of mind?

These questions indicate some of the problems of matter as an object, condition, or cause of knowledge. They also show how the nature of the problem varies with different conceptions of matter, both in itself and in its relation to mind. There are still other problems which confront those theories of mind which separate reason or intellect from the sensitive faculty.

In such theories the consideration of matter's relation to mind goes beyond the question of the origin of sensations. It takes sensations and images as somehow the functions of living matter—the acts of the various sense-organs and the brain. But sensations and images, because they are acts of corporeal organs, have the

same limitation which belongs to everything material. As matter is said to cause the individuality or numerical diversity of bodies, so it is said to make sensations and images: particular intentions of the mind—that is, capable of representing only particular objects, not general kinds or classes. Hence such theories face the problem of the relation of sensations and images to the universal intentions of the mind: its general concepts or abstract ideas.

ONE MORE TRADITIONAL meaning of matter remains to be mentioned. The sciences of physics or mechanics are concerned with change or motion. They are not concerned with mutability in general, but with the kind of mutability that is manifested by material things. Material things are never conceived as unmovable or unchangeable.

The question whether matter itself is immutable has different meanings for different theories of matter. On the theory (discussed in the chapter on CHANGE) that matter and form are together principles of change in changing substances, it is neither matter nor form but the substance composite of matter and form which changes. Those who think that the motions of the physical world are without beginning and end attribute a similar eternity to matter and conceive it as impensable. The theologians who think that God can annihilate whatever He creates do not hold that matter is indestructible, but they nevertheless attribute everlasting endurance to matter in God's plan. Aquinas, for example, in his treatise on the end of the world describes the final conflagration which will purge the material universe but leave its matter in existence under the forms of the elements and the heavenly bodies. The world will be renewed, he writes, in such a way as to throw off all corruption and remain forever at rest. Hence nothing can be the subject of that renewal unless it be a subject of incorruption, such as the heavenly bodies, the elements, and man.

On other theories of matter the fact that motion is regarded as an intrinsic property of bodies seems to be similarly consistent with the notion that matter itself is immutable or indestructible. This indestructibility may be conceived in terms of the absolute indivisibility of

the atoms as in Lucretius and Newton, or as in Spinoza, it may be established by the uncreated and eternal nature of God. By body Spinoza writes, "I understand a mode which expresses in a certain and determinate manner the essence of God in so far as He is considered as the thing extended."

In the modern development of the science of mechanics the law of the conservation of matter seems to be another expression of the same insight. We may lay it down as an uncontested axiom. Lavoisier writes that in all the operations of art and nature, nothing is created; an equal quantity of matter exists both before and after the experiment. What appears to be the destruction of a body is merely the transformation of its matter into another physical condition without loss of mass unless there is an equivalent gain in energy. The total quantity of matter and energy remains constant throughout all physical changes.

But though change or motion seems to be inherent in the material world, the mutability of bodies as well as the immutability of matter seems to be differently conceived according to different conceptions of matter. The difference between the physics of Aristotle and the physics of Descartes can be expressed in terms of contrary definitions of motion, or divergent notions of causality, but neither of these differences is fully intelligible apart from the variance of these theories from one another on the nature of matter.

When matter is an actual substance whose essence is extension and whose chief property is local motion, the principles of physics are mechanical. The laws of mechanics, with time, space, and mass as their fundamental variables, seem to have a universality adequate for describing all natural phenomena. All changes in material things are either the local motions of bodies or the result of the local motions of their parts. Motions are determined in their magnitude and direction by the impressed force which one body exerts upon another and the resistance of that other. Motion is itself completely actual as matter is, and the only type of cause to which physics need appeal is the efficient cause that is the push or pull of one body upon another.

Physicists who share this conception of matter

ter may not agree as Descartes and Newton do not in their mechanical formulations. They may or may not be atomists. They may like Lucretius think that local motion is an absolutely intrinsic property of the eternal particles or like Descartes and Newton they may think that God first imparted motion to matter at the world's creation. They may hold that all subsequent motions issue therefrom in a continuous chain of cause and effect. But when matter is the only factor in the constitution of bodies and one body differs from another only in its quantitative determinations, the consequence for physical theory seems to be one or another sort of mechanical formulation.

When matter is nothing more than a body's potentiality for change and when neither what the body is nor how it changes can be explained by reference to its matter alone, physical theory seems to be constructed in other than mechanical terms. Its concepts and principles resemble those of biology. It finds natural tendencies or desires and ends or final causes in the motion of inert as well as animate bodies.

Central to Aristotle's physics are his theory of the four causes discussed in the chapter on CAUSE and his theory of the four types of change discussed in the chapter on CHANGE. But even more fundamental is his definition of motion as the actualization of that which is potential in a respect in which it is potential. With motion so defined, the principles of physics must include the correlative factors of potentiality and actuality which Aristotle conceives in terms of matter and form.

REMOVE MATTER entirely from a thing and according to Aristotle you remove its capacity for physical change. Remove form and you remove its existence for nothing can exist without being actual or determinate in certain respects. When a thing changes physically it loses certain determinate characteristics and acquires others. The determinations it acquires it had previously lacked yet all the while it must have had a capacity for acquiring them. The thing is capable both of being and of not being. Aristotle says and this capacity he goes on to say is the matter in each. The matter of an existing substance is thus conceived as that which has certain forms (the

respects in which the substance is actually determinate) and lacks certain forms which it can assume (the respects in which the substance is both indeterminate and potential).

As the chapter on ART indicates Aristotle frequently uses artistic production to afford a simple illustration of his theory of matter and form as principles of change. When a man sets out to make a bed he chooses material such as wood which can be shaped in a certain way. The same wood could have been made into a chair or a table. With respect to these various possible determinations in structure the wood is itself indeterminate and determinable.

Before the artist has worked on it productively the wood is in a state of both privation and potentiality with regard to the form of a bed, a chair or a table. The transformation which the artist effects consists in his actualizing certain potentialities in the material for forms or determinations which the material at the moment lacks. When the bed is made the wood or matter which is now actually in the form of a bed may still have the potentiality for being remade into a chair or table.

The wood of course remains actually wood throughout these artificial changes as it does not when it suffers the natural change of combustion. This indicates that though the wood may be called matter or material by the artist it is not matter but a substance, a thin composite of matter and form for when the wood is reduced to ashes by fire the matter which had the form of wood assumes another form.

In the analysis of accidental change which artistic production illustrates it suffices to treat a composite substance like wood or iron or bronze as the material principle. But in the analysis of substantial change when matter itself changes from being one kind of matter to being another in the coming to be or perishing of composite substances the material principle must be pure matter—matter totally devoid of form. Where a whole substance can be regarded as the matter or substratum of accidental change (in quality, quantity or place) the substratum of substantial change which Aristotle calls generation and corruption must be matter in a condition of absolute indeterminacy and pure potentiality.

Referring to this ultimate substratum as the

underlying nature Aristotle says that it is an object of scientific knowledge by analogy For as the bronze is to the statue the wood to the bed so is the matter and the formless before receiving form to anything which has form and so also is the underlying nature to substance *i.e.* the actually existing

ARISTOTLE'S DEFINITION of matter as the primary substratum of each thing from which it comes to be without qualification and which persists in the result not only signifies an object which the physicist must apprehend analogically (*i.e.* by comparison with substantially formed matter like wood and bronze) but also indicates that matter by definition must be in itself both unintelligible and non-existent What Aristotle calls the primary substratum is later called by Plotinus primal matter by Augustine formless matter and by Aquinas prime matter Since they all agree that that which is without form lacks all determination and actuality they deny that it can have existence by itself or be an object of knowledge either by sense or reason.

Augustine and Aquinas go further They deny even ■ God's omnipotence the power of creating matter without form They speak of matter not as created but as *concreated* that is united at the very instant of its creation with the forms it must assume in order to exist God made formless matter of absolutely nothing and the form of the world from this formless matter Augustine writes Yet He created both simultaneously so that form came upon matter with no space of time intervening

IN THE TRADITION of Aristotle's physics and metaphysics especially as developed by Aquinas matter and form become basic analytic terms often having ■ significance remote from their original meaning in the analysis of change The conception of prime (or formless) matter as the substratum of substantial change leads to the designation of the formed matter underlying accidental change as second matter This in turn is called signate matter when considered as the matter of an individual substance ■ ■ viewed as having the limiting determinations of individuality

Matter is twofold Aquinas writes com-

mon and signate or individual common such as flesh and bones and individual as this flesh and these bones When the intellect forms concepts of different kinds of physical substances, it abstracts from the individual sensible matter but not from the common sensible matter In defining the nature of man for example we abstract Aquinas says from this flesh and these bones which do not belong to the species as such but to the individual but we do not abstract from the fact that man consisting of body and soul is a thing of flesh and bones

To say that man consists of body and soul is to indicate that common matter enters into the definition of man as a physical substance But in distinction from definitions of this type which are proper to physics mathematical and metaphysical definitions carry the abstraction from matter still further In mathematics Aquinas declares the intellect abstracts not only from individual sensible matter but also from common sensible matter In conceiving numbers and figures the intellect does not however abstract from matter entirely but only from individual intelligible matter The common intelligible matter which is represented by substance as subject to quantity underlies all mathematical notions But some things Aquinas maintains can be abstracted even from common intelligible matter such as *being unity potency act* and the like all of which can exist without matter Such abstraction characterizes the concepts of metaphysics Aquinas thus differentiates the three speculative sciences of physics mathematics and metaphysics in terms of three grades of abstraction each distinguished by the type of matter from which the concepts of the science are abstracted

With one exception physical matter is not said to be of different kinds when it exists under different forms The one exception for both Aristotle and Aquinas ■ the matter of terrestrial and celestial bodies

Based on his inference from the observations available to him Aristotle holds that the heavenly bodies are eternal—not subject to increase or diminution but unaging and unalterable and unmodified Immutable in every other way they are however subject to local motion Since they are eternal both their matter and

their motion must be different from that of perishable terrestrial bodies. All things that change have matter. Aristotle writes but matter of different sorts: of eternal things those which are not generable but are movable in space have matter—not matter for generation however but for motion from one place to another. That motion from place to place is unlike terrestrial motion: circular it has the appropriate characteristic of endlessness.

Kepler challenges this theory of a radical

difference between celestial and terrestrial matter or motion and as the chapter on *ASTRONOMY* shows by so doing he not only gives impetus to the Copernican system but also paves the way for Newton to frame laws of motion applicable to matter everywhere in the universe. Because their matter is the same it is possible Kepler insists to explain the motion of the heavenly bodies by the same principles which account for the motion of bodies on earth.

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example n 4 HOWER *Ihad* BK II [26, 283] 12d the number 4 is the number of the volume in the set the number 12d and cates that the passage is in section d of page 12

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Ihad* BK II [26, 283] 12d

**BIBLE REFERENCES.** The references are to book chapter and verse. When the King James and Douay versions are cited first and the Douay version is cited by a (D) follows e.g. OLD TESTAMENT *Isaiah* 7 45—(D) *Isaiah* 7 46

**SYMBOLS.** The abbreviation esp calls the reader's attention to one or more especially relevant parts of a whole reference. pass signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

# 1 The conception of matter as a principle of change and as one constituent of the being of changing things the receptacle or substratum

7 PLATO *Timaeus* 455c-458b

8 ARISTOTLE *Physics* I BK I CH 4-9 262a 268d  
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558a CH 17 565a 566a c BK VI 566a 570d  
BK XII C 10 [1075 25 33] 606a / *Sophistical Refutations*  
CH 5 [430 1 14] 662c

12 AUGUSTINE *Metaphysics* I BK VII SECT 23 281b  
BK XII SECT 30 310a b

16 PROCLUS *Almagest* II BK I 5b

17 PROCLUS *First Ennead* TR VIII CH I  
32a b / *Second Ennead* TR IV V 50a 60c  
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18 AUGUSTINE *Confessions* BK X PAR 6 100b c  
PAR 14 102b

19 AQUINAS *Summa Theologiae* PART I Q 3  
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20 AQUINAS *Summa Theologiae* PART II Q  
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28 GILBERT *Loadstone* BK I 25b

35 LOCKE *Human Understanding* BK II CH X  
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42 HANT *Pu* REa n 72c 76c e p 74b 76c  
186b d / *Judgement* 565b d 566d 567a

## 2 Matter and the analysis of change prime and secondary matter privation and form participation and the receptacle

7 PLATO *Timaeus* 455c-458b

8 ARISTOTLE *Physics* BK I CH 4-9 262a 268d  
BK II CH 1 [193 9-21] 269b 270a CH 3  
[194<sup>b</sup> 16-195<sup>a</sup> 21] 271a d BK I CH 7 BK III  
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288b-289a CH 4 [21 15 212 1] 290c 291a CH  
9 [217<sup>a</sup> 20-26] 297a c BK VI CH 10 [24 18-  
241<sup>a</sup> 26] 324c 325b / *Metaphysics* BK III CH 3 360d  
362a BK III CH 2 [3 1733-302 9] 393b K



- (1 *The concept on of matter as a principle of change and as one constituent of the being of changing things the receptacle or substratum* 1a *Matter and the analysis of change prime and secondary matter privation and form participation and the receptacle*)

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9 ARISTOTLE *Generation of Animals* BK I CH 20 [729<sup>b</sup>10]-CH 22 [730<sup>b</sup>33] 269b 271b

III AURELIUS *Meditations* BK VII SECT 23 281b

16 KEPLER *Harmonies of the World* 1078a b

17 PLOTINUS *Second Ennead* TR III CH 18 TR V CH 5 49c 50c / *Third Ennead* TR VI CH 7 19 110d 119a / *Sixth Ennead* TR III CH -8 281c 285d TR V CH 8 307d 308c

II AUGUSTINE *Confessions* BK XII PAR 3-6 99d 100c par 8 101a b par 14 16 102b 103 par 24 26 104c 105b par 28 31 105 107a par 38 40 108d 110 BK XI I par 48 124a

19 AQUINAS *Summa Theologica* PART I Q 3 A 2 ANS 15c 16a A 8 ANS 29d 20c Q 4 A 1 ANS and REP 2 20d 21b Q 5 A 3 REP 3 25a d Q 7 A 2 REP 3 31d 32c Q 9 A 1 ANS 38c 39c Q 29 A 2 R 3-5 163b 164b Q 45 A 2 REP 2 212d 244a A 8 249b 250a Q 46 A 1 REP 6 250a 252d Q 47 A 1 ANS 256a 257b Q 48 A 3 ANS 261b-262a Q 66 A 1 343d 345c Q 77 A 1 REP 2 399c 401b Q 84 A 3 REP 2 443d-444d Q 86 A 3 463b d Q 92 A 2 REP 2 489d-490c A 3 REP 1 490c 491b A 4 ANS and REP 1 491b d Q 103 A 1 REP 2 528b 529a Q 104 A 1 ANS and REP 2 534c 536c Q 110 564c 568b Q 117 A 3 598c 599b PART I II Q 22 A 1 RE 1 720d 721c

20 AQUINAS *Summa Theologica* II R I II Q 60 A 1 49d 50c Q 85 A 6 182d 184a PART II II Q 24 A 11 ANS 498b 499c PART III SUPPL. Q 92 A 1 REP 12 1025c 1032b

II D'URTE *Duties Comedy* PARADISE VII [121-148] 116b-118 [52-87] 126a b

28 GILBERT *Loadstone* BK I 25b

28 HARVEY *On Animal Generation* 407c-409b 412a-415b 494a-496d esp 494b 495c-496a

35 LOCKE *Human Understanding* BK III CH X SECT 15 295a-c

35 BERKELEY *Human Knowledge* SECT II 415a b

42 LAMT *Pure Reason* 74b 76c 100d 101b

- 1b *Matter in relation to the kinds of change substantial and accidental change terrestrial and celestial motion*

8 ARISTOTLE *Physics* BK I CH I [200<sup>b</sup>26-201 13] 278b-c CH 3 [202<sup>a</sup>22 29] 280c BK IV CH 9 296b 297c esp [21<sup>a</sup>20-26] 297a-c BK V CH 1 2 304a 307b / *Havens* BK I CH 2-5 359d 364a CH 9 12 369a 375d BK II CH 4 [28<sup>b</sup>12 1] 379b BK IV CH 3 [310<sup>a</sup>22 311 12] 402b CH 4 [312 3 22] 403c d / *Generation and Corruption* 409a 441a c esp BK I CH 4 [320<sup>a</sup>2 6] 417a / *Metaphysics* BK VII CH 7-9 555a 558a esp CH 7 [1032 15 22] 555a b BK VIII CH 1 [1042 24 24] 566b d CH 4 [1044<sup>a</sup>24-24] 569a-c BK IX CH 7 [1049 19-19] 574d 575a CH 8 [1050<sup>b</sup>20 28] 576c d BK XI CH 11 [1067<sup>b</sup>1] CH 12 [1068<sup>a</sup>25] 596a 597d BK XII CH 2 5 598 601a esp CH 2 [1069<sup>b</sup>24 27] 599a / *Soul* BK I CH 3 [406<sup>b</sup>26-407<sup>b</sup>13] 636b 63 b

16 ITOLE IV *Almagest* BK I 5a 6a 8b 10b 11b BK VII 429a b

16 COPERNICUS *Revolutions of the Heavenly Spheres* BK I 517b 518a 519b 520a

16 KEPLER *Epitome* BK IV 888b 890b 894a 929b 930b

17 PLOTINUS *Second Ennead* TR I CH 1 4 35a 37b TR IV CH 6 51d 52a TR V CH 6 103b-104a / *Third Ennead* TR VI CH 8 19 111c 119a

19 AQUINAS *Summa Theologica* PART I Q 7 A 2 ANS and REP 3 31d 32c Q 45 A 2 REP 2 242d 244a Q 46 A 1 RE 1 3 5-6 250a 252d Q 48 A 3 ANS 261b 262a Q 55 A 2 ANS 289d 290d Q 66 A 1 ANS 343d 345c A 2 345d 347b Q 84 A 3 REP 1 443d-444d

20 AQUINAS *Summa Theologica* PART I-II Q 49 A 4 ANS 5a 6a

28 GILBERT *Loadstone* BK VI 110b-c

- 1c *Matter and the distinction between individual and universals signate and common matter sensible and intelligible matter*

8 ARISTOTLE *Metaphysics* BK I CH 6 [98<sup>b</sup>719-988 6] 505d 506b BK III CH 3 [998<sup>a</sup>20-13] 517a b CH 4 [999<sup>a</sup>24 10 04] 518a d CH 6 [1003 5 16] 521d 522a c BK VII CH 10-11 558a 561a CH 15 [1039<sup>a</sup>27 31] 563d BK VIII C 6 [1045 33 36] 570a B BK X CH 1 [1052 28 37] 578d BK XII CH 4-5 599d 601a BK XIII CH 10 618c 619a c / *Soul* BK II CH I [412 6-8] 642a

12 AURELIUS *Meditations* BK XII SECT 30 310a b

17 PLOTINUS *Second Ennead* TR IV CH 2-5 50b 51d / *Sixth Ennead* TR III CH 3 282a-c

19 AQUINAS *Summa Theologica* PART I Q 3 A 2 R P 3 15c 16a A 3 ANS 16a d Q 4 A 1 REP 3 20d 21b Q 7 A 1 ANS 31a d Q 14 A 11 ANS 84c 85c Q 15 A 3 REP 4 93b 94a Q 29 A 1 162a 163b A 2 REP 3 163b 164b A 3 REP 4 164c 165c Q 47 A 2 ANS 257b

- 258c Q 50 A 4 ANS 273b 274b Q 56 A 1  
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 1 3 585d 587c Q 119 A 1 ANS 604c 607b
- 20 AQUINAS *Summa Theologica* PART III Q 2  
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- 21 The conception of matter as extension as a  
 bodily substance or as a mode of sub-  
 stance atoms and compound bodies
- 10 GALEN *Natural Faculties* BK I CH 12 172d  
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- 12 LUCRETIVUS *Nature of Things* BK I [146-148]  
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- 17 PLOTINUS *Second Ennead* TR IV CH 7 52c  
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*Ennead* TR I CH 2 78d TR VI CH 7 111a  
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- 22 HOBBS *Leviathan* PART IV 271d 272a
- 28 GALILEO *Two New Sciences* FIRST DAY 131d  
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- 31 DESCARTES *Rules* XIV 28a 33b / *Medusa-*  
*tions* 1 77d 81d esp 78c d, 80b d / *Obje-*  
*ctions and Replies* 1 114d 115a c DEF VII 130c d  
 153c 154b 231a 232a
- 32 SPINOZA *Ethics* PART I PROP 14 COROL 2  
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 2 374a
- 34 NEWTON *Optics* BK III 537a b 541b
- 35 LOCKE *Human Understanding* BK II CH  
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- 36 BERRY *Human Knowledge* SECT 9-17  
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 422c SECT 91-96 430d-431d
- 38 HU *Human Understanding* SECT VII DIV  
 123 506a
- 39 KANT *Pur Reason* 15b c 99a 100d esp  
 100c d / *Judgements* 580c d
- 43 LAOZER *Element of Chemistry* PREF  
 3b-4a
- 45 FARADAY *Res ch s in Electricity* 850b d  
 855a c
- 52 JAMES *Psychology* 876a b 882a 884b
- 2 The properties of matter hypotheses con-  
 cerning its constitution
- 8 ARISTOTLE *Physics* BK III CH 4 [303-308]  
 394b d / *Generation and Corruption* BK I CH  
 2 410d-413c CH II 423b 425d / *Metaphysics*  
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- 10 GALEN *Natural Faculties* K I CH 12 172d  
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- 12 LUCRETIVUS *Nature of Things* BK I [329-397]  
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- 19 AQUINAS *Summa Theologiae* PART I Q 47  
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- 23 HOBBS *Leviathan* PART I 50a b PART IV  
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- 28 GALILEO *Two New Sciences* FIRST DAY  
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- 28 G. LILIO *Two New Sciences* SECOND DAY  
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- 30 BACON *Natural Organum* BK II APH 8 140b  
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- 31 DESCARTES *Meditations* II 78c d 80b d /  
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- 31 SPINOZA *Ethics* PART I PROP 14 COROL 2-  
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- 34 NEWTON *Principles* DEF 1 5a DEF III 5b  
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- 34 HUTCHENS *Light* CH III 566b 569b CH V  
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- 35 LOCKE *Human Understanding* BK II CH IV  
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- 35 BERKELEY *Human Knowledge* SECT 9-18  
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 431a
- 42 KANT *Pur Reason* 99a 100d esp 100 d  
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- 45 LAVOISIER *Elements of Chemistry* PART I  
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- 45 FOURIER *Theory of Heat* 169b 170a
- 45 FARADAY *Researches in Electricity* 273 276a  
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- 46 HEGEL *Philosophy of History* INTRO 160c d
- 51 TOLSTOY *War and Peace* EPILOGUE II  
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- 53 JAMES *Psychology* 68a b
- 26 The motions of matter or bodies
- 8 ARISTOTLE *Physics* BK I CH 6-9 292c  
 297 / *Generation and Corruption* BK I CH 8  
 423b-425d
- 10 GALEN *Natural Faculties* K I CH 12 172d  
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- 12 LUCRETIVUS *Nature of Things* BK I [329-397]  
 5b 6 [951-1113] 12d 14d BK II [6-332]  
 15d 19b K I I [177-2 5] 32b-c
- 19 AQUINAS *Summa Theologiae* PART I Q 47  
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- 23 HOBBS *Leviathan* PART I 50a b PART IV  
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- 28 GALILEO *Two New Sciences* FIRST DAY  
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(2) *The conception of matter as extension as a bodily substance or as a mode of substance atoms and compound bodies* 2b *The motions of matter or bodies*

- 30 BACON *Novum Organum* BK I APH 66 114d 115c BK II APH 35 36 162a 168d APH 40 170c 173d APH 48 179d 182b
- 31 DESCARTES *Discourse* PART V 54b 60c / *Objections and Replies* 114d 115a DEF VII 130c d 231a b
- 31 SPINOZA *Ethics* PART II LEMMA I 7 378c 380b
- 34 NEWTON *Principles* 1a 372a / *Optics* BK III 541b
- 35 LOCKE *Human Understanding* BK II CH XXI SECT 2 4 178c 179c CH XXIII SECT 17 209a SECT 22 209d SECT 28 29 211b 212a
- 38 MONTESQUIEU *Spirit of Laws* BK I 1b
- 45 LAVOISIER *Elements of Chemistry* PART I 41b c
- 45 FOURIER *Theory of Heat* 169a B
- 51 TOLSTOY *War and Peace* EPILOGUE II 694d 695c
- 51 JAMES *Psychology* 882a : 883a 884b passim

2c Matter as the support of sensible qualities

- 8 ARISTOTLE *Sense and the Sensible* CH 4 [442 30 424] 680a c CH 6 [445 4 446 20] 683b 684c
- 12 LUCRATIUS *Nature of Things* BK II [398-477] 20a 21a [730-885] 24b 26b BK IV [522-721] 51a 53d
- 17 PLOTINUS *Second Ennead* TR IV CH 8 13 52c 53d / *Third Ennead* TR VI CH 6-19 109d 119a / *Fourth Ennead* TR VII CH 8 196 b / *Sixth Ennead* TR I CH 29 267c 268b
- 21 HOBBS *Leviathan* PART I 49b d 57a b PART III 172b
- 30 BACON *Novum Organum* BK II APH 40 170c 173d
- 31 DESCARTES *Meditations* II 78c d 80b d / *Objections and Replies* DEF VII 130c d 228c 229b 229d 230c 231a b
- 35 LOCKE *Human Understanding* BK I CH VIII SECT 7 26 134b 138b passim CH XXIII 204a 214b passim esp SECT 1-6 204a 205c SECT 15 208c d
- 35 BERKELEY *Human Knowledge* SECT 7 21 414b-417a SECT 37 419d SECT 49 422b SECT 73 427b c SECT 76-78 427d 428b SECT 91 430d-431a
- 55 HOME *Human Understanding* SECT XII DIV 122 123 505c 506a esp DIV 123 506a
- 42 KANT *Pure Reason* 15b c 100c d
- 51 JAMES *Psychology* 185a 331a 503a

2d The demotion of body and mind or matter and spirit

- 17 PLOTINUS *First Ennead* TR I 1a 6b esp CH 3 7 1d-4a / *Sixth Ennead* TR IV CH I 297b-d CH 4-6 299a 300b

19 AQUINAS *Summa Theologica* PART I Q 6 A 4 393a 394c

30 B CON *Advancement of Learning* 48d 50b

31 DESCARTES *Discourse* PART IV 51d 52a / *Meditations* III 77d 81d passim VI 96b 103d passim / *Objections and Replies* DEF VI VII 130c DEF X 130d PROP IV 133c 153c 155c 224d 225d 231a 232d 248b

31 SPINOZA *Ethics* PART I PROP 14 COROL 2 360a PROP 15 SCHOL 360b 361d PART II PROP 1 7 373d 375c PROP 10-13 376c 378c PART III PROP 2 396c 398b PART V PREF 451a 452c

35 LOCKE *Human Understanding* BK II CH XIII SECT 16 151d 152a CH XXIII SECT 5 205a b SECT 15 32 208c 212d passim CH XXVII SECT 27 227d 228a BK IV CH III SECT 28 322a-c CH X SECT 9-19 351b 354c passim

35 BERKELEY *Human Knowledge* SECT 18 20 416b 417a

51 JAMES *Psychology* 84a 93b esp 88a 90a 95b 98a 115a 119b esp 118b 119b 139a 140a 221a 226a esp 221a 222b 225b 226a

3 The existence of matter

3a Matter as the sole existent materialism atomism

- 7 PLATO *Sophist* 567a 568a
- 8 ARISTOTLE *Physics* BK II CH I [193 9-28] 269b-c / *Heavens* BK III CH 4 [303 3 28] 394b d / *Generation and Corruption* BK I CH 2 410d-413c CH 8 423b-425d / *Metaphysics* BK I CH 3 [983 7] CH 4 [985 21] 501d 503d CH 8 [988 23-989 20] 506d 507d BK VII CH 13 [1039 2 11] 562d BK XII CH 10 [1075 25 1076 5] 606a d
- 10 GALEN *Natural Faculties* BK I CH 12 172d 173c
- 12 LUCRATIUS *Nature of Things* BK I [146-634] 2d 8d
- 12 AURELIUS *Meditations* BK IX SECT 39 295a BK X SECT 6 297a b
- 17 PLOTINUS *Second Ennead* TR IV CH I 30a b CH 7 52c / *Third Ennead* TR I CH 3 19b-c / *Fourth Ennead* TR VII CH 2 4 192a 193c / *Sixth Ennead* TR I CH 25 30 265b 268c
- 18 AUGUSTINE *Confessions* BK V PAR 19-21 32c 33b PAR 25 34b c BK VII PAR 2 2 43b-44a PAR 7 45a d
- 19 AQUINAS *Summa Theologica* PART I Q 47 A I ANS 256a 257b II 50 A I ANS 269b-270a II 75 A I ANS 378b 379c
- 23 HOBBS *Leviathan* PART III 172b PART IV 269b 272b
- 30 BACON *Novum Organum* BK II APH 8 140b
- 35 LOCKE *Human Understanding* BK IV CH I SECT 8 37 351a 353c passim
- 51 JAMES *Psychology* 95b 98a 106a 671b [fn 1] 882a 884b

36 Matter as the most imperfect grade of being or reality

7 PLATO *Republic* BK IV 423c-424a

12 AURELIUS *Meditation* BK IX SECT 36 294d 295a

17 PLOTINUS *F 11 Ennead* TR VIII CH 4-5 28c 29c CH 7-8 30c 31c / *5 cond Ennead* TR IV CH 5 51b d CH 15 16 56c 57c TR V CH 4-5 59c 60c / *Th d Ennead* TR VI CH 11 14 113a 116a

18 AUGUSTINE *Conf s on* BK XII PAR 3-8 99d 101b PAR 15 102b c

19 AQUINAS *Summa Theologica* PART I Q 3 A 8 ANS and REP 3 19d 20c Q 4 A 1 ANS and REP 2 20d 21b Q 5 A 3 REP 3 25a d Q 7 A 2 REP 3 31d 32c Q 14 A 11 REP 3 84c 85c Q 15 A 3 REP 3 93b-94a Q 46 A 1 REP 1 250a 252d Q 84 A 3 REP 2 443d-444d Q 103 A 1 REP 2 528b 529a Q 115 A 1 REP 4 585d 587c

21 DANTE *Divine Comedy* PARADISE XXX [13 36] 150b-c

35 LOCKE *Human Understanding* BK II CH XXI SECT 2 178c CH XXIII SECT 28 211b d

35 HUME *Human Understanding* SECT XI DIV 123 506a

3c Matter as a fact on of the mind

■ BERKELEY *Human Knowledge* SECT 1-96 413a-431d *passim* SECT 133 439c-440a

35 HUME *Human Understanding* SECT XII DIV 123 506a

42 KANT *Pur Res n* 25d 91d esp 88b c

44 BOSWELL *Johns n* 124c d

3d The relation of God to matter the creation of matter and its motions

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APOCRYPHA *W dom of Solomon* 11 17—(D)

OT B ok *Wisdom* 11 18

7 PLATO *Tim eu* 448b 449a 450b 451b 458a b 466a b

8 ARISTOTLE *Metaphys* BK X I CH 6 [107<sup>1</sup>19-32] 601c CH 10 [107<sup>5</sup>16-24] 606c

12 LUCRETIVUS *Natu of Thing* BK I [146-158] 7d 3a BK V [146-194] 63a c

18 AUGUSTINE *C n f i n* BK VII PAR 7 45a d BK XI PAR 7 90d 91a BK XII PAR 3-9 99d 101c PAR 15 6 102b 103a PAR 24 26 104c 105b PAR 28 31 105c 107a PAR 38-40 108d 110a BK XIII PAR 45 123a PAR 48 124a / *City of G d* BK XI CH 23 334c 335a

19 AQUINAS *Summa Theologiae* PART I Q 8 A 4 ANS and REP 1 37c 38c Q 5 A 3 REP 3 4 93b-94a Q 16 A 7 REP 2 99a d Q 44 A 2 239b-240a Q 45 A 2 REP 2 242d 244a A 8 249b 250a Q 46 A 1 c REP 1 35-6 250a 252d Q 47 A 1 AN 256a 257b Q 65 A 3 341c 342b Q 66 343d 349d Q 75 A 5 REP 1 4 382a 383b Q 84 A 3 REP 2 443d-444d

Q 91 484a 488c Q 92 A 2 REP 2 489d-490c A 4 491b d Q 103 A 1 REP 2 528b 529a Q 105 AA 1 2 538d 540c ¶ 110 A 2 ANS 565d 566d ¶ 117 A 3 ANS and REP 2 598c 599b

20 AQUINAS *Summa Theologica* PART II Q 85 A 6 182d 184a

21 DANTE *Divine Comedy* PARADISE VII [121-148] 116b c XIII [5-84] 126a b XXIX [13 45] 150b-c

22 CH UCCER *Knights Tale* [2987 3016] 209a B

30 BACON *Ad advancement f Lea n ng* 17b d

31 DESCARTES *Discours* PART V 54d 56b

31 S INOZA *Eth cs* PART I PROP 15 360a 361d PART II DEF 5 373a PROP 2 374a PROP 7 3c 375b-c

32 MILTON *Paradise Lost* BK III [694 735] 150b-151b esp [708 735] 150b 151b BK V [468-505] 185b 186a [577-599] 187b 188a BK VII [59-640] 218b 231a esp [70-108] 218b-219b [192-386] 221b 225b

34 NEWTON *Opt cs* BK III 541b 543a

35 LOCKE *Human Understanding* BK II CH XXI SECT 2 178c CH XXIII SECT 28 211b-d BK IV CH 9 SECT 9-19 331b 334c

35 BERKELEY *Human Knowledge* SECT 67-79 426b-428b *passim* SECT 91-94 430d 431c

35 HUME *Human Understanding* SECT XII DIV 122 509d [fn 1]

46 HEGEL *Philosophy of History* INTRO 136d 157b

4 Matter as an object or condition of knowledge

4a The knowability of matter by essence by reason

7 PLATO *Pha do* 228d 229 / *Republic* BK IV 423c 424a / *Timaeus* 456a 458a

8 ARISTOTLE *Physic* BK I CH 7 [191 8 11] 266d / *Metaphys cs* BK VII CH 15 [1 39] 30-104a 8] 563c 564a BK IX CH 7 [1049 19-21] 574d 575a / *Soul* BK II CH 4 [429<sup>6</sup> 0-430 9] 661d 662c

12 LUCRETIVUS *Nature of Thing* BK I [265 328] 4b 5a BK I [80-131] 16a d

17 PLOTINUS *F 11 Ennead* TR VII CH 9 31c 32a / *5 c d Ennead* TR IV CH 10 53b d CH 2 54c 55b

18 AUGUSTINE *C n f on s* BK XI PAR 3-6 99d 100c

19 AQUINAS *Summa Theologiae* PART I Q 3 A 3 ANS 16a d Q 84 A 11 84c 85c ¶ 15 A 3 REP 3 4 93b 94a Q 50 A 1 ANS 269b 270a Q 57 A 2 295a-d Q 66 A 1 REP 1 343d 345c QQ 84-86 440b-464d Q 87 A 1 ANS 465a 466c

20 AQUINAS *Summa Theologiae* PART III SU VI, Q 92 A 1 ANS and REP 12 1025c 1032b

30 BACON *Natural Opium* BK I AP 1 66 114d 115

4d Matter as an object or condition of knowledge  
4a The knowability of matter by sense  
by reason}

- 31 DESCARTES *Meditations* I 175a 81d passim  
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- 31 SPINOZA *Ethics* PART I PROP 15 SCHOL 360b  
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- 35 LOCKE *Human Understanding* BK II CH VIII  
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- 35 BRADLEY *Human Knowledge* SECT 16-24  
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- 35 HUME *Human Understanding* SECT XII DIV  
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- 42 KANT *Pure Reason* 186b d
- 46 HEGEL *Philosophy of Right* PART I PAR 52  
25a-c
- 48 MELILLE *Moby Dick* 231a
- 53 JAMES *Psychology* 140b 145a 502a 503b pas-  
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- 4b The role of matter in the concepts and defi-  
nitions of the several sciences the grades  
of abstraction in physics mathematics  
and metaphysics
- 7 PLATO *Timaeus* 455c 458b
- 8 ARISTOTLE *Physics* BK II CH 2 270a 271a  
CH 7-9 275b 278a-c / *Meteorology* BK IV  
CH 12 493d-494d / *Metaphysics* BK II CH 3  
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15 [1039 20-1040 8] 563c 564a CH 17 565a  
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569d 570d BK X CH 8-9 585b 586c BK X  
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37 1075 2] 605c BK XIII CH 1 [107711]-  
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[403 15 19] 631b-d BK III CH 7 [43113 19]  
664b
- 8 ARISTOTLE *Parts of Animals* BK I CH 1  
[641 14 31] 163d 164a
- 10 PROBLEMS *Almagest* BK I 3b
- 19 AQUINAS *Summa Theologiae* P RTI Q 1 A 1  
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REP 3 107d 108c Q 29 A 2 REP 3 163b 164b  
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- 20 AQUINAS *Summa Theologiae* PART II II Q  
9 A 2 REP 3 424b-425a
- 30 BACON *Advancement of Learning* 43d-44c /  
*Novum Organum* BK I AP 1 51 111c AP 66  
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- 31 DESCARTES *Rules* VII 19a-c XIV 28a 33b /  
*Objections and Replies* 169c 170a
- 35 BERKELEY *Human Knowledge* SECT 50  
422c SECT 118 131 436b-439c

4c The material conditions of sensation im-  
agination and memory

- 7 PLATO *Meno* 177b-c
- 8 ARISTOTLE *Soul* BK I CH 1 [403 5 20]  
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661c d / *Sleep* CH I [454 1 12] 696b-c
- 12 LUCRETIUS *Nature of Things* BK II [398 477]  
20a 21a [730-864] 24b 26a BK IV [26-268]  
44b-47d [314 316] 48c [522-817] 51a 54d
- 19 AQUINAS *Summa Theologiae* PART I Q 75  
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## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups

I Works by authors represented in this collection

II Works by authors not represented in this collection

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## Chapter 54 MECHANICS

### INTRODUCTION

**M**ECHANICS taken as the name for just one of the physical sciences would merit no place on a small list of basic focal terms. But the word mechanics means more than that. In the tradition of western thought it signifies a whole philosophy of nature and it connotes a set of fundamental principles under which it has been thought all the physical sciences can be unified.

The principles of mechanics have been applied not only in statics and dynamics which are concerned with the action and reaction of bodies at rest or in motion but also in acoustics and optics and the sciences of heat, magnetism and electricity. They have been extended to astronomical phenomena to constitute what is called celestial mechanics. They have been thought to govern the action or motion of invisible particles or waves as well as the familiar bodies of ordinary experience. In the range and variety of the phenomena it covers mechanics would seem to be co-extensive with physics. Such at least appears to be its scope at one stage in the development of natural science.

We shall presently consider the dissatisfaction with the mechanical point of view which causes scientists in our own day to hail the replacement of classical mechanics by the new physics as a great advance in science. The intellectual significance of this change can be compared with that earlier revolution in the 17th century when the new natural science founded on the achievements of Galileo, Huygens and Newton replaced the physics of Aristotle which had long reigned as the traditional philosophy of nature. What Einstein calls the rise and decline of the mechanical point of view thus seems to provide an apt title for the story of three stages in the history of science in only one of which does the whole of physics appear to be dominated by mechanics.

One way then of understanding the importance of mechanics is in terms of that story. Other chapters such as ASTRONOMY, CHANGE, ELEMENT, MATTER, PHYSICS, SPACE and TIME—and perhaps also CAUSE and HYPOTHESIS—tell part of that story, especially the part which turns on the differences between Aristotle's physics (which is neither experimental nor mathematical) and modern physics (which is both). This chapter focuses on issues which fall largely within modern physics—issues belonging to that part of the story which in the great books begins with Galileo, Huygens and Newton and runs to Fourier and Faraday. The story itself does not end there but the point to which Faraday carries it suggests the sequel in Clerk Maxwell and Einstein just as Galileo's point of departure reflects antecedents in Aristotle. The great books state the issues sufficiently well though they do not tell the whole story. That can be fully documented only by a host of supplementary scientific classics in various fields such as the works listed in the Additional Readings.

IN MODERN TIMES it is accepted that physics should be both experimental and mathematical. No one questions the ideal of unifying the physical sciences and finding the unity in nature's laws. But the question is whether that unification can be achieved under the aegis of mechanics and the issue is whether physics should gather its experimental findings together under purely mathematical formulations or should also try to give those mathematical formulae a mechanical interpretation.

The issue involves more than a question of scientific method. It concerns the ultimate aim of natural science and the kind of concepts it should employ to fulfill this aim. Should the scientist seek to do no more than describe the

phenomena of nature in terms of the simplest and most universal mathematical relations? Or should he go beyond description to an explanation of the phenomena in terms of their causes?

When the issue is thus stated as a choice between being content with description or striving for explanation it appears to be broader than the question whether physics should or should not be mechanical. Even granted that explanation is desirable does it necessarily follow that physical explanation must employ the principles and concepts of mechanics? Aristotle's physics it can be argued provides a negative answer. His various physical treatises represent a natural science which tries to explain the phenomena without doing so mechanically just as it tries to describe the phenomena without doing so mathematically.

That the connection of these two features of Aristotle's physics is not accidental seems to be indicated by the conjunction of their opposites in modern physics. When in the 17th century the physicist describes natural phenomena in mathematical terms he explains them—if he tries to explain them at all—in mechanical terms. The laws of Mechanics writes Descartes are the laws of Nature. Huygens opens his *Treatise on Light* by referring to optics as the kind of science in which Geometry is applied in matter but he at once expresses the desire to advance this branch of mathematical physics by investigating the origin and the causes of the truths already known in order to provide better and more satisfactory explanations. Such explanations he thinks will be found only if we conceive the causes of all natural effects in terms of mechanical motions. He declares it his opinion that we must necessarily do this or else renounce all hopes of ever comprehending anything in Physics.

Galileo and Newton as will be noted do not unqualifiedly share Huygens' view that it is proper for the mathematical physicist to inquire about causes. But they would agree that if any explanation is to be given for laws of nature expressed in mathematical form one or another type of mechanical hypothesis would be required to state the causes. Postponing for the moment the consideration of whether the

investigation of causes belongs to mathematical physics let us examine what is involved in giving a mechanical explanation of anything and why this type of explanation tends to occur in the causal interpretation of mathematically formulated laws of nature.

Two points seem to constitute the essence of mechanical theory. Both are fundamental notions and both are philosophical in the sense that they do not seem to result from the findings of experimental research. The first point is an exclusive emphasis upon efficient causes which means the exclusion of other types of causes especially final and formal causes from mechanical explanation. As the chapter on Cause indicates efficient causality consists in *one thing acting on another*. But not every sort of action by which one thing affects another is mechanical. According to the doctrine an efficient cause is mechanical only if it consists in a moving body acting on another by impact or if it consists in a force exerted by one body to cause motion in another or to change its quantity or direction. The notion of a force which does not work through the impact of one moving thing upon another raises the problem of action at a distance to which we shall return subsequently.

The second fundamental point is an exclusive emphasis upon quantities. Mechanical explanation makes no references to qualities or other attributes of things. Paradoxically this point is sometimes expressed in terms of a distinction between primary and secondary *qualities* but as the chapters on Quantity and Quality point out the primary qualities are all quantities. According to Locke they are solidity extension figure motion or rest and number according to Newton the universal qualities of all bodies whatsoever are extension hardness impenetrability mobility and inertia. Others like Galileo and Descartes give still different enumerations but the point remains that the only attributes of bodies which have mechanical significance are measurable quantities. Such secondary qualities for example as colors and tones belong to the physical world (as it is mechanically conceived) only by reduction to the local motion of particles or waves having certain velocities lengths or other quantitative attributes.

We need not be concerned here with what sort of reality is assigned to secondary qualities or how their presence in experience is accounted for. These problems are discussed in other chapters such as *QUALITY* and *SENSE*. However they are solved the philosophy of mechanism excludes from the physical world whatever does not consist in (or cannot be reduced to) quantities of matter (or mass) motion or force and such related quantities as those of time and space (or distance).

The two points of mechanical theory are obviously connected for the kind of cause which mechanical explanation employs to the exclusion of all others consists in a quantity of motion or of force. Just as obviously mechanical explanation dealing only in quantities and in causes which are quantitatively measurable is precisely the type of explanation which would seem to be appropriate if one felt called upon to give an interpretation of the mathematical relationships which the mathematical physicist formulates as laws of nature. These mathematical laws are after all statements of the relations among physical quantities which have been subjected to experimental determination or measurement.

As a philosophical theory the mechanical view of nature antedates modern physical science. The atomistic conception of the world which Lucretius expounds contains both of the fundamental points of mechanism—the doctrine of primary and secondary qualities and the doctrine that all effects in nature are produced by efficient moving causes.

The controversy over mechanism is also ancient. Aristotle denies both points of doctrine in his criticism of the Greek atomists Democritus and Leucippus and in the exposition of his own physical theories he states an opposite view. To qualities and qualitative change he assigns physical reality. He explains change in terms of four types of causes, not one. He does not exclude the mechanical type of cause in his explanation of local motion. On the contrary with respect to local motion his theory that a body in motion must be directly acted upon by a moving cause throughout the period of its motion seems to be more mechanical than the modern theory that no cause need be

assigned for the continuing uniform motion of a body along a straight line but only for a change in its direction or velocity.

What is new in modern times is not the philosophical doctrine of mechanism but the introduction of mechanical explanation into experimental and mathematical physics and the controversy about whether it belongs there or can be defended as useful. The so called rise and decline of the mechanical view in modern physics is connected with experimental discoveries and mathematical formulations. It is not an alternation between success and failure on the level of philosophical argument concerning the ultimate truth of mechanical conceptions. When these conceptions are rejected it is not for the sake of returning to opposite notions in physical theory such as those of Aristotle but rather because as Einstein says science did not succeed in carrying out the mechanical program convincingly and today no physicist believes in the possibility of its fulfillment.

There is a touch of prophecy in the conversation Swift imagines taking place between Aristotle and the physicists of the 17th century. According to Swift when Aristotle was confronted with Descartes and Gassendi he freely acknowledged his own mistakes in natural philosophy because he proceeded in many things upon conjecture as all men must do and he found that Gassendi who had made the doctrine of Epicurus as palatable as he could and the *vortices* of Descartes were equally exploded. He predicted the same fate to *attraction* whereof the present learned are such zealous asserters. He said that new systems of nature were but new fashions which could vary in every age and even those who pretend to demonstrate them from mathematical principles would flourish but a short period of time and be out of vogue when that was determined.

BOTH GALILEO and Descartes re-state the philosophical doctrine which first appears in ancient atomism but both re-state it in a way that suggests its utility for an experimental investigation of nature. It is significant that Galileo's statement occurs in the context of his concern with the nature and causes of heat. He wishes to explain he writes in *Il Saggiatore* why he thinks that motion is the cause of

heat To do this he finds it necessary to question a prevalent notion which is very remote from the truth—the belief that there is a true accident affection or quality really inherent in the substance by which we feel ourselves heated He denies the physical reality of heat as an inherent quality of bodies on the same ground that he denies the physical reality of other qualities I do not believe he declares that there exists anything in external bodies for exciting tastes smells and sounds but size, shape quantity and motion swift or slow and if ears tongues and noses were removed I am of the opinion that shape quantity and motion would remain but there would be an end of smells tastes and sounds which apart from the living creature I regard as mere words

Descartes statement of the doctrine is bolder perhaps in its suggestion of a mechanical program for physical research Colors odors savors and the rest of such things he writes are merely sensations existing in my thought They differ from the real properties of bodies just as much as pain differs from the shape and motion of the instrument which inflicts it The true physical properties such as gravity hardness the power of heating of attracting and purging consist in Descartes opinion solely in motion or its absence and in the configuration and situation of (bodily) parts

As a philosophical doctrine the mechanical view is not necessarily tied to atomism Descartes opposes atomism as plainly as does Aristotle Furthermore Newton who is an atomist disagrees with both Descartes and the Greek atomists on one fundamental point in mechanical theory The ancient atomists make the actual motion of one particle in collision with another the indispensable cause of a change of motion in the latter Descartes likewise requires one motion to be the cause of another and explains gravity in terms of actual bodily motions Newton rejects Descartes mechanical hypothesis of material vortices as the cause of gravitation He seems to have this in mind and to put Descartes in the same class with Aristotle when he says that hypotheses whether metaphysical or physical whether of occult qualities or mechanical have no place in experimental philosophy

The force of gravity according to Newton is a power of attraction which one body exercises on another without the first being in motion or coming into contact with the second Newton acknowledges the problem of action at-a-distance which his theory raises For the most part he lets it stand as a problem which does not affect the mathematical results of his work But in the *Queries* he attaches to his *Optics* he suggests by way of solution the hypothesis of an ether as the continuous medium through which gravitational force is exerted In the opinion of later physicists Newton's hypothesis is no less mechanical than Descartes Nor does there seem to be any philosophical grounds for preferring one hypothesis to the other

But Newton's quarrel with Descartes is not on a philosophical issue It turns on which mechanical conception if any at all is to be offered fits best with the mathematical laws of terrestrial and celestial motion which Newton had succeeded in formulating as universal laws of nature Those mathematical laws moreover had the merit of fitting the observed phenomena and so of realizing the scientific ideal of accurate description stated in the most generalized form Newton's triumph over Descartes then is a triumph in mathematical and experimental physics not a triumph in philosophy

#### Pope's couplet

Nature and Nature's Laws lay hid in Night  
God said Let Newton be and all was light

records that triumph and celebrates the illumination of nature by the mechanical as well as the mathematical principles of Newton's physics Newton's picture of the world dominates the mind of a century and controls its science Locke speaks of the incomparable Mr Newton and of his never enough to be admired book Hume refers to him as the philosopher who from the happiest reasoning

determined the laws and forces by which the revolutions of the planets are governed and directed and even Berkeley who challenges his theories of space time and attraction regrets that he must take issue with the authority of so great a man a man whom all the world admires as the author of a treatise on Mechanics demonstrated and applied to nature

NEWTON'S ACHIEVEMENT is to have accomplished an extraordinary synthesis of all that was good in previous scientific work and a sweeping criticism of all that was considered stultifying. That so many and such varied phenomena should be organized mathematically by a theory as simple as Newton's is also rather impressive. Equally astonishing is the predictive power of Newton's laws and the explanatory power of his mechanics—not to mention the technological fruits of the latter in mechanical engineering and the invention of machinery of all sorts. Whatever difficulties are implicit in the Newtonian mechanics—subsequently to become with new discoveries more and more perplexing—the scope and grandeur of Newton's book gives mechanics a commanding position with respect to the future of science for at least two centuries.

In the century between the publication of Newton's *Mathematical Principles* and the publication in 1787 of Lagrange's *Mécanique analytique* the notion of the mechanical explanation of all the processes of nature writes Whitehead finally hardened into a dogma of science. In the next century the mechanical dogma spreads from physics and chemistry throughout the whole domain of natural science—into biology and psychology—and even beyond that into economics and sociology. Books bear such titles as *The Mechanistic Conception of Life*, *The Mechanism of Human Behavior*, *Social Statics*, *Social Dynamics*. At the end of the 19th century James notes the conquests which are being made on all sides by the mechanical idea. Once the possibility of some kind of mechanical interpretation is established, he writes, "Mechanical Science in her present mood will not hesitate to set her brand of ownership upon the matter."

James himself testifies to the persuasiveness and success of the mechanical dogma, though not without some resentment. The modern mechanico-physical philosophy of which we are so proud, he says, because it includes the nebular cosmogony, the conservation of energy, the kinetic theory of heat and gases, etc., etc., begins by saying that the *only* facts are collocations and motions of primordial solids, and the *only* laws the changes in motion which changes in collocation bring. The ideal which

this philosophy strives after, he continues, is a mathematical world formula by which if all the collocations and motions at a given moment were known, it would be possible to reckon those of any wished-for future moment by simply considering the necessary geometrical, arithmetical, and logical implications.

Laplace had in fact pictured a lightning calculator who, given the total configuration of the world at one instant, would be able to bring the whole future present to his eyes. And James quotes Helmholtz to the effect that the whole problem of physical science is to refer natural phenomena back to unchangeable attractive and repulsive forces whose intensity depends wholly upon distance. The solubility of this problem is the condition of the complete comprehensibility of nature.

In commenting on this James admits that the world grows more orderly and rational to the mind which passes from one feature of it to another by deductive necessity as soon as it conceives it as made up of so few and so simple phenomena as bodies with no properties but number and movement to and fro. But he also insists that it is a world with a very minimum of rational stuff. The sentimental facts and relations, he complains, are butchered at a blow. But the rationality yielded is so superbly complete in form that to many minds this atones for the loss and reconciles the thinker to the notion of a purposeless universe in which all the things and qualities men love are but illusions of our fancy attached to accidental clouds of dust which will be dissipated by the eternal cosmic weather as careless as they were formed.

WITH THE 20TH CENTURY a change occurs. The dogma of mechanism may continue to spread in other sciences and gain even wider acceptance as a popular philosophical creed, but within the domain of the physical sciences certain mechanical conceptions become suspect and a wholesale rejection of classical mechanics (which becomes identified with Newtonian physics) is called for.

Einstein, for example, quotes the passage from Helmholtz that James had cited, in which Helmholtz goes on to say that the vocation of physics will be ended as soon as the reduction

of natural phenomena to simple forces is complete. This *mechanical view* most clearly formulated by Helmholtz, Einstein concedes played an important role in its time but he adds it appears dull and naive to a twentieth century physicist.

Einstein reviews the assumptions which physicists had to make in order to construct a mechanical theory of light gravitation and electricity. The artificial character of all these assumptions he says and the necessity for introducing so many of them all quite independent of each other was enough to shatter the belief in the mechanical point of view. In the attempt to understand the phenomena of nature from the mechanical point of view he continues throughout the whole development of science up to the twentieth century it was necessary to introduce artificial substances like electric and magnetic fluids light corpuscles or ether. According to Einstein attempts to construct an ether in some simple way have been fruitless but what is more important in his opinion such failures indicate that the fault lies in the fundamental assumption that it is possible to explain all events in nature from a mechanical point of view.

Does this mean that the contemporary physicist has found another and better way of explaining nature? Is there a non mechanical way of explaining the phenomena which fits the mathematical laws of experimental physics or does discarding mechanics mean relinquishing all efforts to explain nature?

Eddington suggests an answer. One of the greatest changes in physics between the nineteenth century and the present day he writes has been the change in our ideal of scientific explanation. It was the boast of the Victorian scientist that he would not claim to understand a thing until he could make a model of it and by a model he meant something constructed of levers geared wheels squirts and other appliances familiar to the engineer. Nature in building the universe was supposed to be dependent on just the same kind of resources as any human mechanic. The man who could make gravitation out of cogwheels would have been a hero in the Victorian age. Today however Eddington continues we do not encourage the engineer to build the world for us out of his

material but we turn to the mathematician to build it out of his material.

We may turn to the mathematician's construction of the world in his terms but in the tradition of western thought mathematically formulated laws of nature are not with the single exception perhaps of the Pythagoreans regarded as explanations of why things behave as they do or how they work. The change from the 19th to the 20th century with respect to our ideal of scientific explanation cannot then be the substitution of the mathematical for the mechanical account of why and how. The shift from mechanics to mathematics is rather a shift from explanation as the scientific ideal to the statement of laws which while having maximum generality remain purely descriptive. What Eddington means by building the world out of the material of mathematics seems to be the same as what Galileo means four centuries earlier when he says that the book of nature is written in mathematical language. The materials are such symbols as triangles circles and other geometrical figures. Without the help of these Galileo writes to Kepler nature is impossible to comprehend.

But does the mathematical comprehension of nature mean a causal explanation of it? More explicitly than Eddington Galileo insists that explanation—at least in the sense of stating the causes—is not the business of the mathematical physicist. In a passage which cannot be read too often or examined too closely he names three opinions which the philosophers have expressed about the cause of the acceleration of natural motion. Some he says explain it by attraction to the center others to repulsion between the very small parts of the body while still others attribute it to a certain stress in the surrounding medium which closes in behind the falling body and drives it from one of its positions to another. Now all of these fantasies he continues and others too ought to be examined but it is not really worthwhile.

They ought to be examined by philosophers perhaps but debating them is not worthwhile in those sciences where mathematical demonstrations are applied to natural phenomena. Perfectly defining the program of mathematical physics Galileo sets himself a limited task.

carried with it a doctrine of natural motions to different natural places drawn from the observation of fire rising stones dropping air bubbling up through water. Such a doctrine would prevent the search for laws of motion applicable to all bodies and the general character of Aristotle's physics treating qualities as well as quantities seems to have discouraged the application of mathematics even to the study of local motions.

The mathematical expression of the laws of motion is Galileo's objective. His interest in the new astronomy which affirmed the motion of the earth led him, he told Hobbes, to the careful study of movements on the earth. His aim is simply to describe with precision the motions to be found in a child's play—stones dropped and stones thrown—the one the natural motion of free fall, the other the violent motion of a projectile. It is clear to observation that the motion of a freely falling body is accelerated. But though as a mathematical physicist Galileo refrains from asking why this is so, he is not satisfied to know simply that it is so. He wants to know the properties of such acceleration. What is the relation of the rate of increase in velocity to the durations and distances of the fall? How much increase in velocity is acquired and how fast? What is the body's velocity at any given point in the fall? Similarly when Galileo turns to projectiles he wants to know not merely that their trajectory is consistently curvilinear but precisely what curve the path of the projectile describes.

Galileo succeeds in answering all these questions without being perturbed by any of the philosophical perplexities connected with space and time, nor does he allow questions about the forces involved in these motions to distract him from his purpose to demonstrate everything by mathematical methods. With mathematical demonstration he combines observation and experiment and uses the latter to determine which mathematical conclusions can be applied to nature—which principles can be empirically verified as well as mathematically deduced.

ONE OF GALILEO'S principles however seems to outrun ordinary experience and to defy experimental verification. In the interpretation

of his experiments on inclined planes Galileo expresses an insight which Newton later formulates as the first law of motion, sometimes called the law of inertia. It declares that every body continues in its state of rest or of uniform motion in a right line unless it is compelled to change that state by forces impressed upon it. Though Newton describes his method as one of making experiments and observations and in drawing general conclusions from them by induction, the law of inertia seems to be an exception for it is difficult to say as Hume does that we find by experience that a body at rest or in motion continues forever in its present state—that is *unless* it is acted on by some new force.

The condition introduced by *unless* raises Poincaré's question: Have there ever been experiments on bodies acted on by no forces? If not and if they are impossible then James may be right in saying that the elementary laws of mechanics are never matters of experience at all but have to be disengaged from under experience by a process of elimination that is by ignoring conditions which are always present. Because the idealized experiment [which it calls for] can never be performed, the law of inertia according to Einstein can be derived only by speculative thinking consistent with observation.

In any case the first law of motion initiates a new departure in physics. So far as local motion is concerned Aristotle and his followers look for the cause which keeps a moving body in motion or a stationary body at rest. According to Galileo and Newton uniform motion continues naturally without cause. Only a change in the velocity or direction of that motion requires a cause such as a force impressed upon it.

How radical this innovation is may be judged from its consequences in celestial mechanics which in turn lead to a completely unified dynamics for both celestial and terrestrial motions. These advances are the work of Newton's mathematical genius but the ground for them had been laid by the investigations of Galileo. Galileo had resolved the curvilinear motion of a projectile into the imparted rectilinear motion and the deflecting pull of gravity. This composition of forces—sometimes called the parallelogram law—explains why the path of

the projectile is a parabola. The path of the planets in their orbits Kepler had previously shown ■ another conical curve—an ellipse. But Kepler, lacking the first law of motion, could theorize physically about the cause of the planetary orbits only by looking for a force projected outward from the sun which would sweep around to keep the planets moving in their paths. On the other hand ■ follower of Galileo as Whitehead points out, would seek

for normal forces to deflect the direction of motion along the curved orbit. He would look for a force pulling the planet off its own rectilinear course inward toward the sun.

That is precisely what Newton did. When the problem which others had been able to formulate was put to Newton, he simply went to his study for the solution. He had solved that problem some years before. He had found the law of the force which attracting the planets to the sun would produce their elliptical paths and the other proportionalities stated in Kepler's purely descriptive laws.

With that single discovery, Galileo's terrestrial dynamics becomes a celestial one too, and the traditional separation of the heavens from the earth is overcome. Newton goes even further. He guesses, and then shows by arithmetic, that the force deflecting the planets around the sun and the moon around the earth is the same force which makes apples fall and stones heavy in the hand. He generalizes this insight in his famous inverse square law. Every particle of matter attracts every other particle of matter with a force proportional to the mass of each and to the inverse square of the distance between them.

Accordingly, the world can be pictured as one in which material particles each have position in absolute space and a determinate velocity. The velocity of each particle causes the change of its position, and changes in velocity are caused by forces, the amounts of which are determined by positions. From his laws of motion and this simple law of force, Newton is able by mathematical deduction to account for the perturbations of the moon, the oblateness of the earth, the precession of the equinoxes, the solar and lunar tides, and the paths of the comets.

But is Newton's law of force as simple as it

appears to be at first? Its mathematical meaning is plain enough, and its application to measured phenomena reveals its descriptive scope. When we ask, however, about its physical significance, we raise difficult questions concerning the nature of this attractive force and how it operates. To call it the force of gravity, and to point out that this ■ a familiar force which everyone experiences in his own person, hardly answers the question.

GALILEO WOULD NOT HAVE TRIED to answer it. In his *Dialogues Concerning the Two Great Systems of the World*, one of the characters Simplicio refers to that manifest cause which everyone knows is gravity. To this Salviati replies: "You should say that everyone knows it is called gravity. I do not question you about the name; he continues, but about the ■ sense of the thing, and that he concludes is precisely what cannot be defined."

A physicist like Huygens, who expects the explanation of natural effects to be expressed in the familiar mechanical terms of bodily impact, has other objections. "I am not at all pleased," he writes to Leibnitz about Newton, "with any theories which he builds on his principle of attraction, which seems to me absurd. What shocks Huygens is a scandal that Newton himself cannot avoid facing. It is the scandal of action at a distance—of the force of gravity being propagated instantaneously across great distances and producing effects at some remote place but no effects along the way. Newton recognizes the strangeness of such a force. In a letter to Bentley, he echoes Huygens' protest to Leibnitz. That gravity should be innate, inherent, and essential to matter, he says, so that one body may act on another at a distance through a vacuum without the mediation of anything else, by and through which their action and force may be conveyed from one to another, is to me so great an absurdity that I believe no man who has in philosophical matters a competent faculty of thinking can ever fall into it."

The absurdity of action-at-a distance seems to be recognized by common sense and philosophy alike. "No action of an agent," Aquinas remarks, "however powerful it may be, acts at a distance except through a medium, and



Kant who regards Newtonian physics as the model of a rational science of nature speaks of a *force of attraction without contact* as a chimerical fancy which we have no right to assume. How can Newton avoid this absurdity without violating his rule of method in mathematical physics—not to frame hypotheses?

Newton's dilemma can perhaps be stated in the following alternatives: either the inverse square law of gravitational attraction is to be treated as a purely mathematical and hence a purely descriptive proposition of great simplicity and generality or it must be given physical meaning by a causal explanation of how gravitational force operates. On the first alternative Newton can avoid framing hypotheses but the physical meaning of the concepts he employs to state the mathematical law is then left dark. On the second alternative he can solve the mechanical problem created by such words in his law as *attracts* and *force* but only by going beyond mathematical physics into the realm of mechanical hypotheses.

Newton seems to take the first alternative in his *Mathematical Principles of Natural Philosophy* and the second in his *Optics*. There he proposes the hypothesis of an ethereal medium to explain the attractive force of gravity. Is not this medium he asks much rarer within the dense bodies of the sun, stars, planets and comets than in the empty celestial spaces between them? And in passing from them to great distances doth it not grow denser and denser perpetually and thereby cause the gravity of those great bodies towards one another and of their parts towards the bodies every body endeavoring to go from the denser parts of the medium towards the rarer? And though this increase of density may at great distances be exceeding slow yet if the elastic force of this medium be exceeding great it may suffice to impel bodies from the denser parts of the medium towards the rarer with all that power which we call gravity.

The hypothesis fits the law of gravitation if as Maxwell points out the diminution of pressure [in the ether] is inversely as the distance from the dense body. Newton recognized according to Maxwell that it then becomes necessary to account for this inequality of pressure in this medium and as he was not able to

do this he left the explanation of the cause of gravity as a problem for succeeding ages. The progress made towards the solution of the problem since the time of Newton Maxwell adds has been almost imperceptible.

THE PROBLEMS of the mechanical properties of an ethereal medium occurs in another form in the field of optics. Here it is complicated by the rivalry between two theories of light—Newton's corpuscular theory and Huygens' undulatory or wave theory. Each involves a mechanical hypothesis—one concerning the motion of particles emitted from the light source and one concerning the wave-like propagation of the light impulse through a medium. Both theories involve the motion of particles. In their explanation of the *oar* which appears bent in the water both appeal to the action of the particles in the refracting medium on the light corpuscles or the light waves.

Both theories furthermore are expressed by their authors in a mathematical form which permits the deduction of quantitative facts like the equality of the angles of incidence and of reflexion, the bending of the light ray in refraction according to the law of sines and the recently discovered fact of the finite velocity of light. Huygens' book gives prominence to the explanation of the strange phenomena of double refraction found in a certain kind of crystal brought from Iceland—Iceland spar. But both theories seem to be equally competent in dealing with the established facts of reflexion and refraction and the new facts about dispersion.

For a century at least their rivalry resembles that between the Ptolemaic and Copernican theories at a time when they seemed equally tenable so far as accounting for the phenomena was concerned. Later new discoveries such as those by Young and Fresnel tend to favor the wave theory of light but the rivalry continues right down to the present day. It remains unresolved at least to an extent which prompts Eddington in reviewing contemporary controversy about the nature of light and electricity to suggest the invention of the word *wavicle* to signify the complementary use of both particles and waves in the modern theory of radiation.

Unlike the rivalry between the Ptolemaic and Copernican systems which seemed for a while to be entirely a matter of different mathematical descriptions of the same phenomena the conflict between these two theories of light involves from the very beginning an issue between diverse mechanical hypotheses to explain the phenomena. That issue is argued not only with respect to the adequacy of either theory to explain such phenomena as the rectilinear propagation of light and its different behavior in different mediums but it is also debated in terms of the underlying mechanical conceptions. As gravitational force acting at a distance raises a mechanical problem which Newton's ether is not finally able to solve so Huygens' ether as the medium through which light is propagated in waves raises mechanical problems which if insoluble (as they seem to be) contribute even more heavily to the general scientific scandal of mechanics.

The two authors take different attitudes toward hypotheses and mechanical explanation. Huygens as we have seen begins his book with the express intention to investigate the causes and to express them in terms of mechanical motions. Newton on the other hand begins his with a reiteration of his disavowal of hypotheses. My design in this book he writes is not to explain the properties of light by hypotheses but to propose and prove them by reason and experiments. Nevertheless Newton's explanation of how the prism produces from white light the band of colors in the spectrum seems to require the assumption of a distinct kind of light corpuscle for each color and in addition the assumption that although all light particles have the same velocity when they travel together making white light separate particles for different colors are differently refrangible that is differently susceptible to the action of the particles in the refracting medium of the glass.

Perhaps only in Newton's somewhat artificially restricted sense of the word hypothesis could these assumptions escape that designation. In any case the existence of Huygens' rival theory prevented his escaping a controversy about hypotheses. In the *Queries* attached to his *Optics* he engages in that controversy with an acumen which shows another side of his genius.

HUYGENS' WAVE THEORY requires what any body would have to call an hypothesis and requires it from the very start. It is inconceivable he writes to doubt that light consists in the motion of some sort of matter. He immediately rejects the notion that light rays consist in the transport of matter coming to us from the [luminous] object in the way in which a shot or an arrow traverse the air—if for no other reason because the rays traverse one another without hindrance. The similarity between the phenomena of light and the phenomena of sound suggests to him the way that light spreads and causes him to extend the mechanics of sound—conceived as a wave motion—to light.

We know that by means of air which is an invisible and impalpable body Huygens argues sound spreads around the spot where it has been produced by a movement which is passed on successively from one part of air to another and that the spreading of this movement taking place equally on all sides ought to form spherical surfaces ever enlarging and which strike our ears. Now there is no doubt at all that light also comes from the luminous body to our eyes by some movement impressed on the matter which is between the two. If in addition light takes time for its passage it will follow that this movement impressed on the intervening matter is successive and consequently it spreads as sound does by spherical surfaces and waves for I call them waves from their resemblance to those which are seen to be formed in water when a stone is thrown into it.

Huygens is aware however that the analogy between light and sound is far from perfect.

If one examines he says what this matter may be in which the movement coming from the luminous body is propagated one will see that it is not the same that serves for the propagation of sound. This may be proved he goes on by shutting up a sounding body in a glass vessel from which the air is withdrawn. An alarm clock beating its bell in a jar without air makes no sound but a jar without air is no less transparent than one with air. Since when the air is removed from the vessel the light does not cease to traverse it as before and since waves have to be waves of something and light waves cannot be waves of air they

must be waves of a substance says Huygens which I call ethereal matter

This ether a transparent medium permeating the whole universe proves to be what Einstein calls the *enfant terrible* in the family of hypothetical physical substances. Postulated by Huygens in order to explain light mechanically it in turn calls for a mechanical account of its own extraordinary properties. Huygens does not avoid this new problem but neither does he undertake to solve it completely.

Suppose one takes a number of spheres of equal size made of some very hard substance and arranges them in a straight line so that they touch one another. Then says Huygens one finds on striking with a similar sphere against the first of these spheres that the motion passes as in an instant to the last of them which separates itself from the row without one's being able to perceive that the others have been stirred. This type of motion in the ether would account for the extreme velocity of light and yet this progression of motion is not instantaneous as the motion of light also is not.

Now in applying this kind of movement to that which produces light Huygens continues there is nothing to hinder us from estimating the particles of the ether to be of a substance as nearly approaching to perfect hardness and possessing a springiness as prompt as we choose. Beyond this Huygens does not go. It is not necessary to examine here he says the causes of this hardness or of that springiness. Though we shall ignore the true cause of springiness we still see that there are many bodies which possess this property and thus there is nothing strange in supposing that it exists also in little invisible bodies like the particles of the ether.

But difficulties which Huygens did not foresee make his ether more than a strange supposition—almost a mechanical impossibility. Huygens had thought that light waves are transmitted in the ether in the way that sound waves are in the air that is longitudinally the direction in which the individual particles vibrate being the same as the direction of the wave motion itself. But when in the 19th century it was found that the phenomena of the polarization of light could not be explained by the cor-

puscular theory but only by the wave theory (thus shifting the scales decisively in favor of the latter) it was also found that the wave theory could explain polarization only on the assumption that the motion of the ether particles which produce the light waves is not longitudinal but transverse that is in a direction perpendicular to the waves produced by the vibration of the particles.

As Fresnel pointed out at the time the supposition that the vibrations were transverse was contrary to the received ideas on the nature of the vibration of elastic fluids. They had all involved as in the case of air as the medium for sound a longitudinal transmission. The character of the ether is changed by the requirement that its particles vibrate transversely. It ceases to be an air like ether and must be imagined as a jelly like ether.

The task which Huygens had postponed—that of giving a mechanical explanation of the ether he had posited in order to state the mechanics of light—becomes in consequence far more difficult if not impossible. In their efforts to construct the ether as a jelly like mechanical substance physicists according to Einstein had to make so many highly artificial and unnatural assumptions that they finally decided to abandon the whole program of mechanical explanation.

OF NEWTON'S TWO objections to the wave theory of light the second by itself seems to create an insuperable difficulty for Huygens' ether even before the realization that it must be a jelly like medium.

Newton's first objection is that any wave theory is inconsistent with the fact of the rectilinear propagation of light. If light consisted in pressure or motion propagated either in an instant or in time it would bend into the shadow for he points out pressure or motion cannot be propagated in a fluid in right lines beyond an obstacle which stops part of the motion but will bend and spread every way into the quiescent medium which lies beyond the obstacle. The waves pulses or vibrations of the air wherein sound consists bend manifestly even though not so much as the waves of water.

This objection loses its force when in the

19th century light bending is experimentally discovered. But Newton's other objection gains force when two centuries after he made it a jelly like density is imposed upon the ether by the experimental facts of polarization. Thus second objection does not point to the inadequacy of the wave theory with respect to the phenomena which must be described but rather calls attention to its inconsistency with celestial mechanics.

Light travels through inter stellar space. But so also do the planets. Newton's astronomy accounts for the motion of the planets with great precision *only on the supposition of no resistance from a medium*. To make way for the regular and lasting motions of the planets and comets, he writes, it is necessary to empty the heavens of all matter except perhaps such an exceedingly rare ethereal medium as we described above. Here he refers to the ether he himself had posited as a possible cause of gravitational attraction. Its resistance he thinks, is so small as to be inconsiderable. The planets and comets and all gross bodies [can] perform their motions more freely in this ethereal medium than in any fluid which fills all space adequately without leaving any pores. Such a dense fluid serves only to disturb and retard the motions of those great bodies and make the frame of nature languish. Since it hinders the operations of nature and since there is no evidence for its existence Newton concludes that it ought to be rejected.

The next conclusion follows immediately. If it be rejected the hypotheses that light consists in pressure or motion propagated through such a medium are rejected with it. Newton would seem entitled to draw these conclusions because no matter how slight the density of ethereal matter the use of the ether in the wave theory of light involves some interaction between the particles of ether and the particles of matter. Unless such interaction takes place no explanation can be given of the change in the velocity of light when it enters a medium like glass or water. Since in Newton's universe there is no difference between terrestrial and celestial matter Newton cannot accept an ether which interacts with the matter of glass or water but does not interact with the matter of the planets.

This objection of Newton's pointing to an inconsistency between the kind of ether required by the wave theory of light and the unretarded motion of the heavenly bodies appears not to have been answered but only waived at the time of the wave theory's ascendancy. The famous Michelson Morley experiment on ether drift later re-opens Newton's penetrating query about the ether. But this occurs at a time when physicists are prepared to give up not only the ether but also with it the mechanical explanations of gravity and light which it had brought into conflict with one another.

BEFORE THE MECHANICAL dogma runs its course it has a career in other fields of physical inquiry. The phenomena of heat, magnetism and electricity are explored and explained under its inspiration. The history of these subjects is marked by a very rash of hypotheses. Each time mechanical explanation is attempted for a new domain of phenomena new substances are added.

The postulated entities—caloric, magnetic and electric fluids—are unobservable and without weight. In Newton's terms they are occult though it must be added they are no more occult than the ether Newton himself postulated to explain gravity or the ether Huygens postulated to explain light. In fact each of these new substances seems to resemble the aëiform or fluid ether just as each is conceived as the gravitational or optical ether was earlier conceived in the context of the issue of action-at-a-distance as opposed to action by contact. They would seem to be unavoidable in a mechanical account of the radiations of heat, magnetism and electricity.

The phenomena of heat Lavoisier writes are difficult to comprehend without admitting them as the effects of a real and material substance or very subtle fluid. Wherefore he continues we have distinguished the cause of heat or that exquisitely elastic fluid which produces it by the term of caloric. Lavoisier declares himself unable to determine whether light be a modification of caloric or if caloric be on the contrary a modification of light. But in terms of observed effects he does attribute ether like properties to caloric. This

subtle matter he says penetrates through the pores of all known substances for there are no vessels through which it cannot escape.

The theory of caloric serves its purpose before it gives way to the theory of heat as molecular motion a conception which can be integrated with the molecular or kinetic theory of gases. The development of the kinetic theory of matter writes Einstein is one of the greatest achievements directly influenced by the mechanical view. It is all the more striking therefore that in the opening pages of Fourier's *Analytical Theory of Heat*—wherein he reviews the triumphs of explanation achieved by Newton and his successors—Fourier should so flatly assert. But whatever may be the range of mechanical theories they do not apply to the effects of heat. These make up a special order of phenomena which cannot be explained by the principles of motion and equilibrium.

It is equally striking that Lavoisier seems to have anticipated not only the mechanical theory of heat but the possibility of a purely mathematical treatment of the phenomena.

We are not obliged to suppose [caloric] to be a real substance he writes it is sufficient that it be considered as the repulsive cause whatever that may be which separates the particles of matter from each other so that we are still at liberty to investigate its effects in an abstract and mathematical manner.

The second of these two things is precisely what Fourier proposes to undertake but he disavows any interest in the first namely the explanation of heat in terms of the mechanical separation of particles by repulsion. In language which resembles Newton's disavowal of concern with the cause of attraction Fourier declares that primary causes are unknown to us but are subject to simple and constant laws which may be discovered by observation.

In another place he writes. Of the nature of heat only uncertain hypotheses could be formed but the knowledge of the mathematical laws to which its effects are subject is independent of all hypothesis. Fourier's aim therefore with respect to the very extensive class of phenomena not produced by mechanical forces but resulting simply from the presence and accumulation of heat is to reduce

the physical questions to problems of pure analysis and to express the most general conditions of the propagation of heat in differential equations. He expresses his indebtedness to Descartes for the analytical equations which that mathematician was the first to introduce into the study of curves and surfaces but which are not restricted to the properties of figures and those properties which are the object of rational mechanics. These equations he insists extend to all general phenomena and from this point of view mathematical analysis is as extensive as nature itself.

This strongly worded statement affirms the mathematical character of nature as the support and justification for a purely mathematical physics. If Fourier's remarks about causes and hypotheses are reminiscent of Newton in his mathematical mood how much more Fourier's faith in pure mathematical analysis reminiscent of Galileo. Like Galileo and unlike Newton Fourier never deviates from his indifference to causes and never offends his judgment of the incompetence and irrelevance of mechanics to the subject he is investigating. His trust in mathematical analysis which is able by itself to yield and organize physical discoveries not only revives the spirit of Galileo but also seems to have inspired Clerk Maxwell to turn from a mechanical to a mathematical theory of electricity.

Certain of Fourier's mathematical achievements such as his theory of dimensions prove useful to Maxwell. More important perhaps is the fact that Maxwell's predictions about the propagation of electromagnetic waves, later experimentally verified by Hertz are the result of mathematical analysis. With such a demonstration of the power of mathematics to work fruitfully with experiment and without any aid from mechanical hypotheses Maxwell gives up the attempt to formulate a mechanics for his equations describing the electromagnetic field. He is quite content to let his field theory state the mathematical structure of the phenomena.

BETWEEN FOURIER and Maxwell comes Faraday. One of the greatest experimenters in the whole tradition of science Faraday discovers the phenomena whose mathematical structure Maxwell later develops. He prepares the way

for Maxwell's application to electricity and magnetism of the method Fourier had practiced. His speculations concerning the relation of electrical and gravitational force point ahead beyond Maxwell to the possibility of a field theory which might unify all physical phenomena under a single set of mathematical laws.

Faraday sees no incompatibility between experimentation and speculation. On the contrary he says that "as an experimentalist I feel bound to let experiment guide me into any train of thought which it may justify being satisfied that experiment like analysis must lead to strict truth if rightly interpreted and believing also that it is in its nature far more suggestive of new trains of thought and new conditions of natural power." Faraday's faith seems to have been amply justified. His experiments not only discovered a stunning number of new facts but the speculations to which they led transformed the whole mode of thinking about electricity and magnetism and to some extent the whole of physics.

The Elizabethan Gilbert with his bold and brilliantly handled thesis that the earth is a magnet had made magnetism appear something more than a random phenomenon occasionally met with in nature. But not until Faraday's discovery of diamagnetism announced in a memoir *On the Magnetic Condition of All Matter* would anyone have dared to say that all matter appears to be subject to the magnetic force as universally as it is to the gravitating, the electric and the chemical or cohesive forces. Of electricity he can only predict as the result of his protracted experimental investigations that "it is probable that every effect depending upon the powers of inorganic matter will ultimately be found subordinate to it."

These remarks indicate the controlling theme of Faraday's researches, namely the convertibility and unity of natural forces. It seems to have been suggested to him by the discovery that both electrical and magnetic forces obey the same simple inverse square law as the force of gravitational attraction. The fact that certain forces obey the same law or that their action can be described by the same equations, would not of itself reveal whether one of these forces is primary or all are de-

rivative from some other primary force. But it would suggest questions to be asked by experiment.

Gilbert compares magnetism and electricity but he is not able to convert one into the other. Oersted before Faraday is the first to establish one aspect of their convertibility. He shows that an electric current has a magnetic effect. Faraday succeeds in showing the reverse—that a magnetic current has electrical power. He expresses his fascination with such reversibilities in his remarks on the electrical torpedo fish. Seebeck, he writes, taught us how to commute heat into electricity and Peltier has more lately given us the strict converse of this and shown us how to convert electricity into heat. Oersted showed how we were to convert electric into magnetic forces and I had the delight of adding the other member of the full relation by reacting back again and converting magnetic into electric forces. So perhaps in these organs where nature has provided the apparatus by means of which the fish can exert and convert nervous into electric force we may be able, possessing in that point of view a power far beyond that of the fish itself to reconvert the electric into the nervous force.

Faraday demonstrates still another such reversibility in nature. The nature of his discovery is indicated by the titles of the papers in which he announces it: *On the Magnetic Action of Light and the Illumination of Magnetic Lines of Force* and *The Action of Electric Currents on Light*. These papers in his opinion established for the first time a true direct relation and dependence between light and the magnetic and electric forces and he concludes them with an explicit statement of the central theme of all his researches and speculations.

Thus a great addition is made, he writes, to the facts and considerations which tend to prove that all natural forces are tied together and have one common origin. It is no doubt difficult in the present state of our knowledge to express our expectation in exact terms and though I have said that another of the powers of nature is in these experiments directly related to the rest I ought perhaps rather to say that another form of the great power is distinctly and directly related to the other forms.

ONE FORM OF the great power remained to be connected with such other forms as those of light heat electricity and magnetism That was the power of gravitational force Faraday comes to this last stage of his speculations concerning the unity of nature's powers in terms of his conception of lines of force and of what later came to be called the field of force

The earliest theories of electricity and magnetism in an orthodox atomistic vein had conceived them as exerting an influence by means of the effluvia which they emitted Newton for example speculates on how the effluvia of a magnet can be so rare and subtle as to pass through a plate of glass without any resistance or diminution of their force and yet so potent as to turn a magnetic needle beyond the glass When electrical conduction is later discovered effluvia are replaced by fluids on the analogy of caloric as the fluid conductor of heat But when Faraday finds that he can induce from one current to another he becomes interested in the dielectric non conducting medium around the circuits He is strongly averse to any theory which involves action at a distance and so he argues that induction takes place by the action of contiguous particles To support that argument he shows experimentally that electrical induction can turn a corner

From his study of all the phenomena of magnetism Faraday forms the conception of lines of force and concludes that there is a center of power surrounded by lines of force which are physical lines essential both to the existence of force within the magnet and to its conveyance to and exertion upon magnetic bodies at a distance He says of this idea of lines of force that all the points which are experimentally established with regard to [magnetic] action i. e. all that is not hypothetical appear to be well and truly represented by it and he adds Whatever idea we employ to represent the power ought ultimately to include electric forces for the two are so related that one expression ought to serve for both

Subsequently Faraday satisfies himself as to the physical reality of electrical lines of force in addition to the magnetic lines The compulsion of his interest in the unity of nature then drives him to speculate about gravitational force He begins by admitting that in the case

of gravitation no effect sustaining the idea of an independent or physical line of force is presented to us as far as we at present know the line of gravitation is merely an ideal line representing the direction in which the power is exerted But encouraged perhaps by Newton's repeated references to the attractions of gravity magnetism and electricity and by Newton's letter to Bentley which he interprets as showing Newton to be an unhesitant believer in physical lines of gravitating force Faraday goes to work experimentally

The report of these researches *On the Possible Relation of Gravity to Electricity* opens with the re statement of Faraday's central theme The long and constant persuasion that all the forces of nature are mutually dependent having one origin or rather being different manifestations of one fundamental power has made me often think of establishing by experiment a connexion between gravity and electricity and so introducing the former into the group the chain of which including also magnetism chemical force and heat binds so many and such varied exhibitions of force together by common relations His experiments he tells us unfortunately produced only negative results but that does not shake his strong feeling of the existence of a relation between gravity and electricity

THOUGH FARADAY FAILS to prove that such a relation exists he does bequeath as a legacy to 20th century physics the problem of a field theory which would embrace both gravitational and electrical force But whereas Faraday conceives the problem mechanically in terms of the physical reality as well as unity of all lines of force in which contiguous particles act on one another those who inherit the problem from him cease to concern themselves with the physical existence of lines of force and their mechanical basis in the action and reaction of bodies Influenced by the amazing generality implicit in Maxwell's field equations they proceed to search for a purely mathematical statement of nature's structure

In the judgment of the 20th century physicist mathematics may at last succeed in doing precisely what mechanics from Newton in Faraday kept promising but forever failing to

do. If the unity of nature can be expressed in a single set of laws they will be according to Einstein laws of a type radically different from the laws of mechanics. Taking the form of Maxwell's equations a form which appears in all other equations of modern physics they will be he writes laws representing the structure of the field.

In saying that Maxwell's equations are structure laws and that they provide a new pattern for the laws of nature Einstein means to emphasize their non mechanical character.

In Maxwell's theory he writes there are no material actors. Whereas Newton's gravitational laws connect the motion of a body here and now with the action of a body at the same time in the far distance Maxwell's equations connect events which happen now and here with events which will happen a little later in the immediate vicinity. Like the equations which describe the changes of the electromagnetic field our new gravitational laws are according to Einstein also structure laws describing the changes of the gravitational field.

The heart of the difference between a structure law and a mechanical law seems to be contained in Einstein's statement that all space is the scene of these laws and not as for mechanical laws only points in which matter or changes are present. This contrast between matter and space brings to mind the difference between physics and geometry. Yet Einstein's repeated reference to changes in these space structures also reminds us that the electrical and gravitational fields are not purely geometrical but physical as well.

The structure laws of the new physics may be geometrical in form, but if they are to have any physical meaning can they entirely avoid some coloring by the mechanical conceptions which have been traditionally associated with the consideration of matter and motion? At least one contemporary physicist appears to think that mechanics survives to bury its undertakers. After describing the development in which geometry progressively swallowed up the whole of mechanics Eddington observes that mechanics in becoming geometry remains none the less mechanics. The partition between mechanics and geometry he continues has broken down and the nature of

each of them has diffused through the whole so that besides the geometrization of mechanics there has been a mechanization of geometry.

According to this view it is not mechanics but classical mechanics which the new physics has abandoned. The character of the mechanics seems to have altered with the character of the mathematical formulations. Field theory dealing with contiguous areas and successive events avoids the problem of action at a distance and also apparently that problem's classical solution in terms of the action of contiguous particles. But another sort of mechanics may be implicit in the field equations which connect events in one area with events in the immediate vicinity. If those equations had been available to him Newton might have expressed his theory of a variably dense ether—analogous to the modern conception of a variably filled or variably curved space—in terms of structure laws describing the gravitational field.

WE ARE LEFT with a number of questions. Is the story of mechanics the story of its rise and decline or the story of its changing role—now dominant now subordinate now more manifest now more concealed—at all stages in the development of a physics which is committed to being both mathematical and experimental? Do the status and character of mechanical conceptions change with changes in the form of the mathematical laws which describe the phenomena? Can physics be totally devoid of mechanical insight and yet perform experiments which somehow require the scientist to act on bodies and to make them act on one another? Could a pure mathematical physics have yielded productive applications in mechanical engineering without the intermediation of mechanical notions of cause and effect?

Whichever way these questions are answered we face alternatives that seem to be equally unsatisfactory. Either experimental physics is purely mathematical and proclaims its disinterest in as well as its ignorance of causes or physics cannot be experimental and mathematical without also being mechanical and without being involved in a search for causes which are never found.

To the layman there is something mysterious



about all this. He stands in awe of the physicist's practical mastery of matter and its motions which he naively supposes to depend upon a scientific knowledge of the causes while all the time the scientists protest that the causes remain unknown to an experimental and mathematical physics. Mechanical explanations may be offered from time to time but the various forces they appeal to can be understood only from their effects and are nothing more than verbal shorthand for the formulae or equations which express the mathematical laws. Yet they remain cause names and seem to stimulate advances in science—both experimental and mathematical—almost as a consequence of the exasperating elusiveness of these hidden causes.

Certain philosophers hold a view which suggests that the clue to the mystery may lie in the word hidden. Causes exist and we can control them to build machines and explode bombs but we cannot with our senses catch them in the very act of causing or perceive the inwardness of their operation. If the fact that they are thus unobservable means that they are occult then all causes are occult—not least of all the mechanical type of cause which consists in the impact of one body upon another. In the century in which physicists tried to avoid the scandal of forces acting at a distance by postulating mechanical mediums through which one body acted directly on another philosophers like Locke and Hume express their doubts that such causal action is any less occult than Newton had said Aristotle's causes were.

The passing of motion out of one body into another, Locke thinks, is as obscure and inconceivable as how our minds move or stop our bodies by thought. The increase of motion by impulse which is observed or believed some times to happen is yet harder to understand. We have by daily experience clear evidence of motion produced both by impulse and by thought but the manner how hardly comes within our comprehension & we are equally at a

loss in both. In Locke's judgment we will always remain ignorant of the several powers, efficacies and ways of operation whereby the effects which we daily see are produced. If scientific knowledge is knowledge of causes then how far soever human industry may advance useful and experimental philosophy in physical things scientific will still be out of our reach.

When we try to observe efficient causes at work what do we see? Hume answers that we only see one thing happening after another.

The impulse of one billiard ball is attended with motion in the second. This is the whole that appears to the outward senses. Nor can we form any inward impression of what takes place at the moment of impact. We are ignorant, he writes, of the manner in which bodies operate on each other and we shall always remain so for their force or energy is entirely incomprehensible.

As the chapter on Cause indicates Aristotle holds an opposite view of the matter. What takes place in efficient causation may be imperceptible but it is not incomprehensible. All causes may be occult so far as the senses are concerned but they are not obscure to the intellect. But Aristotle would also insist that the action of efficient causes cannot be understood if they are totally isolated from other causes—material, formal, final. A purely mechanical physics in his opinion defeats itself by its basic philosophical tenets which exclude all properties that are not quantitative and all causes except the efficient. Only a different metaphysics—one which conceives physical substances in terms of matter and form or potentiality and actuality—can yield a physics which is able to deal with causes and explain the phenomena but such an Aristotelian physics from the modern point of view stands condemned on other grounds. It is not experimental. It is not productive of useful applications. It is not mathematical nor is it capable of comprehending all the phenomena of nature under a few simple universal laws.

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 *Howe's Illad* BK II [265-283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 1.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 *J. E. S. Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left and right sides of the page. The letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 *PLATO Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference. Line numbers in brackets are given in certain cases. e.g. *Illad* BK I [265-283] 12d.

**BIBLE REFERENCES.** The references are to book, chapter and verse. When the King James and Douay versions differ in title of book or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D). folio is e.g. *OLD TESTAMENT Nehemiah* 7 45—(D) *II Esdras* 7 46.

**SYMBOLS.** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference. passim signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

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8 ARISTOTLE *Heaven* K III CH 4 [303 3 48]  
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10 GALILEO *On the Two New Sciences* K I II 173a b

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19 AQUINAS *Summa Theologiae* ART I Q 115  
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28 GIBBS *On the Equilibrium of Heterogeneous Substances* K II 29c 34b esp 29c 30a

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34 NEWTON *Principia* DEF 5a D III 5b BK  
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- 9 ARISTOTLE *Motion of Animal* CH 1 4 233c 235c / *Gau of Animals* CH 3 243d 244a / *Generation of Animals* BK IV CH 3 [768<sup>b</sup> 16 24] 310b-c
- 12 ILCRETIUS *Nature of Things* BK II [80-99] 16a [184 250] 1 b-18b
- 16 KEPLER *Epitome* BK IV 894a 895b 899a 900a 905a 906b 933b 934b 936a 937a 938b 9 9a
- 20 AQUINAS *Summa Theologiae* PART III Q 84 A 3 REP 2 985d 989b
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- 42 HANT *Pure Reason* 6b c 1d 18d 3 a 6c 71c esp 71b-72a
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- 43 FAR DAY *Researches in Electricity* 440b d 758a 759c 831a d 850b d 855a c esp 850b d 851c
- 49 D RWIN *Org of Species* 239c
- 51 JAMES *Psychology* 882a 884b
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- 8 GILBERT *Loadstone* PREF 1a b BK I 6a 7a esp 6d 7a BK II 27b-c
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- 45 FAR DAY *Researches in Electricity* 440b d 467a b 607a c 659a 774d 775a
- 53 JAMES *Psychology* 864a

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- 12 LUCRETIVS *Nature of Things* bk v [509-533] 67d 68a
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- 14 PAULI *Vacuum* 367a 370a
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- 49 DARWIN *Origin of Species* 239c
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- 45 FOURIER *Theory of Heat* 181a 183a b
- 51 TOLSTOY *War and Peace* REPOUE II 687d 695b c
- 53 JAMES *Psychology* 885b 886a

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- 8 A. ISTOLE *Posterior Analytics* K I CH 9 104b d CH 13 [7 31 79 16] 108b c / *Physics* BK II II 2 [94 7 11] 270b c BK VII CH 5

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- 10 AQUINAS *Summa Theologiae* PART I II Q 35 A 8 ANS 779c 780c
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- 28 GALILEO *Two New Sciences* FIRST DAY 131b 132a 133b SECOND DAY FOURTH DAY 178a 260
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- 45 FARADAY *Researches in Electricity* 831a d
- 50 MARK *Capital* 170a c
- 51 TOLSTOY *War and Peace* BK XI 469a d
- 53 JAMES *Psychology* 675b 876a b 882a 883a

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- 11 ARCHIMEDES *Measurement of a Circle* PROP 3 448b-451b / *Circles and Spheres* PROP 3-6 458b 460b / *Equilibrium of Planes* BK I PROP 6-7 503b 504b
- 16 POLE *Almagest* BK I 18b 20b
- 28 GALILEO *Two New Sciences* THIRD DAY 197b 200a 205b 206c
- 31 DESCARTES *Rules* XIV 31b 33b / *Geometry* B I 295a 296b
- 34 NEWTON *Principles* BK I LE VII I 25a
- 42 HANT *Judgement* 551a 552a
- 45 FOURIER *Theory of Heat* 183a b
- 51 TOLSTOY *War and Peace* BK XI 469a d

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- 11 APOLLONIUS *Quadratus* f th *Parabola* 527a 537b
- 11 APOLLONIUS *Conics* 603a 804b
- 16 AEPHIL *Epinome* BK V 975a 979b
- 28 GALILEO *Two New Sciences* SECOND DAY 191c 195c FOURTH DAY 238a 260 c pas m, esp 238b 240

(3) *The use of mathematics in mechanics the dependence of progress in mechanics on mathematical discovery* 36 *The geometry of conics the motion of planets and projectiles*

- 31 DESCARTES *Geometrie* BK I II 298b 314b  
 34 NEWTON *Principles* BK I PROP II 29 and SCHOL 421 75b esp PROP II 13 42b 46a BK III PROP 13 286a b PROP 40 317b 338a  
 34 HUYGENS *Light* CH V 583b 599a 604b 606b CH V 607b 611a  
 42 KANT *Judgement* 551a 552a

3c *Algebra and analytic geometry the symbolic formulation of mechanical problems*

- 31 DESCARTES *Rules* IV 5c d XIV 30d 33b XVI 33d 35c XVI 136b 39d / *Geometry* 295a 353b esp BK I II 298b 314b BK II 322b 331a  
 34 NEWTON *Principles* BK I LEM 1 4 19 57b 58b  
 34 HUYGENS *Light* CH VI 610a b  
 45 LAVOISIER *Elements of Chemistry* PREF 1a  
 45 FOURIER *Theory of Heat* 172a 173b 177a 251b

3d *Calculus the measurement of irregular areas and variable motions*

- 11 ARCHIMEDES *Equilibrium of Planes* BK I PROP 7 504b / *Quadrature of the Parabola* 527a 537b  
 16 KEPLER *Epitome* BK V 973a 975a 979b 983b  
 28 GALILEO *Two New Sciences* SECOND DAY 193b 194d THIRD DAY 205b d 224b c  
 33 PASCAL *Equilibrium of Liquids* 395a b / *Geometrical Demonstration on* 434b 435b  
 34 NEWTON *Principles* BK I LEMMA 1 II and SCHOL 2 a 32a esp LEM 1a II CL 1 31a b BK II LEM 2 and SCHOL 168a 170a  
 45 FOURIER *Theory of Heat* 172b 177a 181a b 183a b 211a 248b  
 51 TOLSTOY *War and Peace* BK VI 469a d EPILOGUE II 695b c

4 *The place scope and identity of the science of mechanics its relation to the philosophy of nature and other sciences*

- 23 HOBBS *Leviathan* PART I 72a d  
 30 BACON *Advancement of Learning* 16a b 33d 34b / *Novum Organum* BK I APH 73 118b BK II APH 9 140b c / *New Atlantes* 210d 714d  
 31 DESCARTES *Rules* IV 7a v 8a / *Discourse* PART V 54d 56a 59a  
 34 NEWTON *Principles* 1b 2a BK I PRO 69 SCHOL 130b-131a / *Optics* BK III 541b 542a  
 34 HUYGENS *Light* CH I 553b 554a  
 35 HUME *Human Understanding* SECT I DIV 9 454c d

- 36 SWIFT *Gulliver* PART III 94b-103a  
 42 KANT *Pure Reason* 32a 69c 72c esp 71b-1a / *Judgement* 563a 564c  
 45 FOURIER *Theory of Heat* 169a b 1 2a 173b 182a 184a  
 45 FARADAY *Experimental Electricity* 468d-499a  
 43 JAMES *Psychology* 69b 70a 882a 896a esp 883a 884b 889a 890a

4a *Terrestrial and celestial mechanics the mechanics of finite bodies and of particles or atoms*

- 9 ARISTOTLE *Motion of Animals* CH 3 (399 11f CH 4 (700 3) 234a 235a  
 16 KEPLER *Epitome* BK IV 888b 905a PART III 919b 9 9a 933a 935b 940b 941a 959a 960a  
 28 GALILEO *Two New Sciences* FOURTH DAY 245b d  
 30 BACON *Novum Organum* BK II APH 5 138b-139a PART 35 162a 164a APH 36 165 166c PART 46 178c PART 48 186c d  
 34 NEWTON *Principles* BK III RULES 2 OR 271b PROP 7 281b-282b / *Optics* BK III 539a 54 b  
 51 TOLSTOY *War and Peace* BK XIII 563a b EPILOGUE II 694d 695d

4b *The explanation of qualitative and qualitative change in terms of quantity and motion*

- 8 ARISTOTLE *Metaphysics* BK I CH 4 (385<sup>b</sup> 19) 43c d / *Sense and the Sensitive* CH 4 (442 30<sup>b</sup> 24) 680a c  
 10 GALEN *Natural Faculties* BK I C 2 167b-168b  
 12 LUCRETIVS *Nature of Things* BK II (398-521) 20a 21c (677-687) 2 c d (750-1021) 21b-2 a BK IV (522 721) 31a 53d  
 23 HOBBS *Leviathan* BK I 49b d PART III 172b  
 31 DESCARTES *Objections and Replies* 231a b  
 34 NEWTON *Optics* BK I 431a-455a esp 430a 453a  
 34 HUYGENS *Light* CH I 553b 554a  
 35 LOCKE *Human Understanding* BK II CH I 111 a CT 4 133d SECT 7 26 131b-138b CH XXII SECT 3 178d SECT 7 200b d CH XXIII SECT 8-9 206 c SECT II 206d 20 a SECT 3 13d 214b CH XXII SECT 2 239b d esp 239d BK III CH IV SECT 10 261b d BK I CH II SECT II 13 311c 312b CH III SECT 6 314b PART 2 14 316a d SECT 28 322a c  
 35 BERKELEY *Human Knowledge* SECT 25 417d 418a SECT 102 432d-433a  
 45 FOURIER *Theory of Heat* 169b 182a b

4c *The mechanistic account of the phenomena of life*

- 7 PLATO *Phaedo* 10d 242b / *Symposium* 55 a 563a  
 8 ARISTOTLE *Sense and the Sensitive* CH 1 4 (442 30<sup>b</sup> 24) 600a c

- 9 ARISTOTLE *Parts of Animals* BK I CH I [64<sup>b</sup> 5-64<sup>i</sup> 19] 163a 164a / *Motion of Animals* CH 7 [7<sup>14</sup> 3] 236d 237b CH 8 [702<sup>a</sup> 22] CH 10 [33<sup>14</sup> 1] 237c 239a / *Gen. of Animals* 243a 252a c / *Generation of Animals* BK II CH I [734<sup>b</sup> 20] 275a ii CH 5 [741<sup>b</sup> 5 10] 282c
- 10 GAL *Nat. r. Faculties* BK I CH I 2 BK II CH 8 172d 195c esp BK I CH 12 172d 173c BK II CH I 3 185a CH 6 188c 191a BK III CH 14 15 213b 214c
- 12 LACETIUS *Nature of Things* BK II [865-1022] 26a 28a BK III [94-869] 31b-41a BK V [783-836] 71b-72a
- 13 HOBBS *Leviathan* INTRO 47a b
- 14 HUYGENS *On Air & Generation* 353b d 493c 496d
- 31 DES CARTES *Discourse* PA TV 56a 60b
- 34 NEWTON *Optics* BK I 384b 385b 428a b BK III 518b 519b 522a
- 35 LOCKE *Human Understanding* BK II CH IV 3 CY II 140b-c CH I SECT 10 143c d CY II SECT 11 145d 146 CH XXVII SECT 5 220b-c BK IV CH III SECT 25 321a ii
- 38 ROUSSEAU *Equality* 337d 338a / *Political Economy* 368d 369a
- 42 HANT *Judgement* 571c 572a 575b-578a 578d 582c
- 45 LAVOISIER *Elements of Chemistry* PART I 14a
- 45 FARADY *Researches in Electricity* 440b d 540a 541a c
- 49 DARWIN *Origin of Species* 89b-c
- 49 TOLSTOY *War & Peace* BK X 449b c EPILOGUE II 689c 690a
- 11 JAMES *Psychology* 5a 6b 9a 17b 44a 52a 68 71a 95b 98a
- 54 FREUD *Psychology* 412 414c / *Beyond the Pleasure Principle* 651d 657d passim c p 651d 652d 659d 661c esp 660a / *Ego and Id* 708d 709b 711c d
- 5 The basic phenomenon and problems of mechanics and dynamics
- 5 Simple machines the balance and the lever
- 8 ARISTOTLE *Physics* BK VI CH 4 [255<sup>a</sup> 20-22] 339d
- 10 HORAII *De Arte Poetica* 31 87
- 11 ARCHIMEDES *Equilibrium of Planes* K I POSTUL 1 3 502a 6 502b PROP 1-3 502b 503a PA 6-7 503b 504b
- 14 PUTNAM *Metaphysics* 252 d
- 16 KLEIN *Epitome* K IV 933b-934b A V 970b 972
- 11 GALILEO *Two New Sciences* SECOND DAY 178b 180c THIRD DAY 209a 210a FOURTH DAY 258 d
- 33 PASCAL *Equilibrium of Liquids* 390 394b
- 34 NEWTON *Principles* BK I CH 15a 16b LAWS OF MOTION S NO 23 24a
- 35 HUME *Human Understanding* SECT IV DIV 27 460
- 50 MARX *Capital* 181a
- 5b The equilibrium and motion of fluids buoyancy the weight and pressure of air the effects of a vacuum
- 8 ARISTOTLE *Heavens* BK IV CH 6 404d-405 c
- 10 GALEN *Natural Faculties* BK I CH 16 181a d BK II CH 1 2 183b d 184c CH 6 188c 191a BK III CH 14 15 213b 214c
- 11 ARCHIMEDES *Floating Bodies* 538a 560b
- 28 GALILEO *Two New Sciences* FIRST DAY 135b-138b 163a 166c
- 30 BACON *Novum Organum* BK II APH 48 180a
- 33 PASCAL *Vacuum* 359a 365b / *General Experiment* 382a 389b / *Equilibrium of Liquids* 390a 403a / *Weight of Air* 403a 429a
- 34 NEWTON *Principles* BK II PRO 19 3 and SCHOL 194b 203a PROP 36 226a 231b HYDROSTATICS PRO 53 and SCHOL 259a 267a K III PROP 41 3 6b 357b / *Optics* BK III 518a b
- 35 LOCKE *Human Understanding* BK II CH XXIII SECT 23 24 209d 210c
- 45 LAVOISIER *Elements of Chemistry* PART I 10c 12d 15c 16d PART III 88d 89d 96b 99a
- 5c Stress strain and elasticity the strength of materials
- 28 GALILEO *Two New Sciences* FIRST DAY 131a 139c SECOND DAY 178a 196d passim
- 30 BACON *Novum Organum* BK II APH 48 180a d 187d
- 34 NEWTON *Principles* LAWS OF MOTION SCHOL 21b 22a BK II PROP 23 and SCHOL 201b-203a / *Optics* BK III 540b 541a
- 34 HUYGENS *Light* CH I 558b 559b
- 35 LOCKE *Human Understanding* BK II CH XXIII SECT 23 7 209d 211b
- 45 LAVOISIER *Elements of Chemistry* PART I 14c 15c PART II 96b 99a
- 45 FOURIER *Theory of Heat* 192a ii
- 5d Motion on void and medium resistance and friction
- 7 PLATO *Timaeus* 460c d
- 8 ARISTOTLE *Physics* BK IV CH 6-9 292c 297c / *Heavens* BK III CH 2 [3<sup>14</sup> 1] 392c 393b / *De Caelo* CH 2 [459<sup>a</sup> 28 34] 703b
- 12 LUCRETIUS *Nature of Things* BK I [329 448] 5b 6c 195i 05 [12d 14a BK II [42 166] 16d 17a [225 242] 17d 18a BK VI [830-839] 91b c
- 16 KEPLER *Epitome* K IV 857a ii
- 20 AQUINAS *Summa Theologiae* PART III Q 84 A 3 E 2 985d 989b
- 28 GALILEO *Loadstone* K 110c
- 28 GALILEO *Two New Sciences* FIRST DAY 134a 135b 157b 171b FOURTH DAY 241d 243
- 30 BACON *Novum Organum* BK II A H 8 140b APH 36 167b APH 45 186a 187a 187
- 34 NEWTON *Principles* K 159a 267 passim esp GENERAL SCHOL 211b 219a BK III OP 6 COROL I 281b PROP 284 285a / *Optics* K III 521b-522a 527 528b



(5) *The basic phenomena and problems of mechanics statics and dynamics 5d Motion solid and medium resistance and friction*

- 35 LOCKE *Human Understanding* BK II CH XIII SECT 22 23 153b d CH XVII SECT 4 168b d  
42 HANT *Pure Reason* 71b 72a

### 5e Rect linear motion

- 8 ARISTOTLE *Physics* BK V CH 4 [228<sup>b</sup>15 229<sup>a</sup>7] 309d 310a BK VIII CH 8 [263<sup>b</sup> 7 263 3] 348b 349c / *Heavens* BK I CH 2 [268<sup>b</sup>15 24] 359d  
28 GALILEO *Two New Sciences* FIRST DAY 157b 171b THIRD DAY 197a 237a c  
30 BACON *Novum Organum* BK II APH 48 186b c  
34 NEWTON *Principles* LAW I II 14a b BK I PROP 32 39 81a 88a BK II PROP I 14 159a 189a passim

### 5e(1) Uniform motion its causes and laws

- 28 GALILEO *Two New Sciences* FIRST DAY 162c 163a THIRD DAY 197b 200a  
34 NEWTON *Principles* DEF III IV 5b 6a LAW I 14a COROL IV V 18a 19a BK II PROP I COROL 159a PROP 2 159b 160a PROP 5-6 165a 167a PROP II 12 183a 184b

### 5e(2) Accelerated motion free fall

- 8 ARISTOTLE *Physics* BK IV CH 8 [215 24-216 21] 295a d / *Heavens* BK III CH 2 [301<sup>b</sup> 16-31] 393a ii  
12 LUCRETIVS *Nature of Things* BK II [235 24] 17d 18a  
16 PTOLMEY *Almagest* BK I 10b 11b  
19 AQUINAS *Summa Theologiae* PART I Q 115 A 1 REP 3 585d 587c  
28 GALILEO *Two New Sciences* FIRST DAY 157b 171b THIRD DAY 200a 237a c  
30 BACON *Novum Organum* BK II APH 36 166b-c APH 48 181d  
34 NEWTON *Principles* DEF IV 6 LA II 14 II COROL VI 19b BK I PROP 32 39 81a 88a BK II PROP 3 4 160b-165 PROP 8 10 170a 179 PROP 13 14 184b 189a PROP 32 40 and SCHOL 219 246b esp PROP 40 SCHOL 239a 246b PRO 41-50 and SCHOL 247a 259a

### 5f Motion about a center planets projectiles pendulum

- 8 ARISTOTLE *Physics* BK VIII CH 8-10 348b 355d / *Heavens* BK I CH 2 359d 360d CH 4 362a c BK II CH 3 12 377c 384c / *Metaphysics* BK XII II 8 603b 605a / *Soul* BK I CH 3 [406<sup>b</sup>26-407<sup>b</sup>13] 636b-637b  
16 KEPLER *Epitome* BK IV 895b 905a p m 913a 914b-915a 918b 928a passim 933a 946 esp 939a 940b BK V 965a 966a / *Harmonies of the World* 1015b-1023a  
28 GALILEO *Two New Sciences* FOURTH DAY 240a d  
30 BACON *Novum Organum* BK II APH 36 167b-c APH 46 177c 178a A 143 186b-d

- 34 NEWTON *Principles* DEF V III 7a LAWS OF MOTION SCHOL 19b-20a BK I LEMMA I II and SCHOL 25a 32a PROP I 3 and SCHOL 32b 35b esp PROP 3 SCHOL 35b PRO 46 101a b BK II PROP 51-53 and SCHOL 259a 267a esp PROP 53 SCHOL 266a 267a BK III PHENOMENA 272a 275a PROP 13 286a b

### 5f(1) Determination of orbit force speed time and period

- 12 LUCRETIVS *Nature of Things* BK V [614-649] 69a ii  
16 KEPLER *Epitome* BK IV 905a 907a BK V 968a 985b esp 975a 979b  
28 GALILEO *Two New Sciences* FIRST DAY 166d 168a 171b 172d THIRD DAY 203d 205b 235b d FOURTH DAY 238a 260a ii  
30 BACON *Novum Organum* BK II APH 48 186b d  
34 NEWTON *Principles* LAWS OF MOTION SCHOL 19b 22a BK I PROP I 17 and SCHOL 32b-50a PROP 30-31 and SCHOL 76a 81a PROP 40-42 88b 92b PROP 46-47 and SCHOL 101a 107 PROP 51-56 105b 111a BK II PROP 4 161b 165a PROP 10 and SCHOL 173b 183a L III 3 PROP 18 189b 194b PROP 24 GENERAL SCHOL 203a 219a BK I I PROP I-5 and SCHOL 276a 279a PRO 13 286a b PROP 20 291b-294b LEMMA 4 PROP 42 333 368b  
35 LOCKE *Human Understanding* BK II CH XIV SECT 21 159a d  
35 BERKELEY *Human Knowledge* SECT III 434d

### 5f(2) Perturbation of motion the two and three body problems

- 16 KEPLER *Epitome* BK IV 9 0b 921b 922b-926a 957b 959a  
28 GILBERT *Loadstone* BK II 54c d 55c 56b  
34 NEWTON *Principles* BK I PROP 43 45 92b-101a 111b PROP 57-69 and SCHOL 111b-131a BK II PROP 5 COROL III 279 PROP 12 14 and SCHOL 285a 287b PROP 21 39 291b 333a  
45 FARADAY *Researches in Electricity* 817a b

### 6 Basic concepts of mechanics

#### 6a Center of gravity its determination for one or several bodies

- 11 ARCHIMEDES *Equilibrium of Planes* 50 a 519b / *Method* PROP III 578 579a PROP 3-9 580b 582b  
31 DSCARTEZ *Objections and Replies* 231c d  
33 PASCAL *Equilibrium of Liquids* 393b 394a  
34 NEWTON *Principles* COOL IV 18a 19a BK I II 1 HYPOTHESIS I PROP 12 285a 286a

#### 6b Weight and specific gravity the relation of mass and weight

- 7 PLATO *Timaeus* 462d-463c  
8 ARISTOTLE *Physics* C BK IV C I 8 [216<sup>b</sup>12 216<sup>a</sup> 295c d / *Heavens* BK I C I 3 [216<sup>b</sup>18 216<sup>a</sup> 360d 361b C I 6 [2, 3 22 2, 4 8] 364c 365b

- BK III CH 2 [301 21<sup>b</sup> 32] 392c 393b BK IV  
 CH 1 3 399a-402c  
 17 LACRETIUS *Nature of Things* BK I [358 369]  
 5c BK II [80-108] 16a b [ 94 96] 18d  
 16 COPERNICUS *Revolutions of the Heavenly  
 Sphere* BK I 521a  
 16 KEPLER *Epitome* BK V 970b  
 19 AQUINAS *Summa Theologica* PART I II Q 26  
 A 2 AVS 734d 735c  
 23 IIO RES *Leviathan* PART IV 271d  
 28 CILBERT *Loadstone* BK VI 115d 116a  
 28 GALILEO *Two New Sciences* FIRST DAY  
 158b-c 160a 164a passim  
 30 BACON *Novum Organum* BK II APH 24  
 154d 155a APH 35 163c d APH 36 166b c  
 A H 4 172a b  
 31 DESCARTES *Objections and Replies* 231b 232a  
 34 NEWTON *Principles* DEF 1 5a K II PROP 24  
 203a 204a BK III PROP 6 279b 281b / PROP 8  
 282b 283b PROP 20 291b 294b passim  
 45 LAVOISIER *Elements of Chemistry* PART III  
 88d 89d  
 45 FOURIER *Theory of Heat* 219a 251b  
 45 FARADAY *Researches in Electricity*, 632a
- 6 Velocity accelerat on and momentum an-  
 gular or rect linear average or instan-  
 taneous  
 8 ARISTOTLE *Physics* BK IV CH 8 [215<sup>a</sup>-4  
 2 6 21] 295 d BK V CH 4 [228 20-220<sup>a</sup>]  
 309b 310 BK VI CH 3-2 312b d 315d BK  
 VII H 4 330d 333a  
 31 GALILEO *Two New Sciences* FIRST DAY 166d  
 168a THIRD DAY 197b 200a 207d 209a  
 210a 224b 225d FOURTH DAY 240a d 243d  
 249b  
 30 BACON *Novum Organum* BK II APH 46 177d  
 178d  
 34 NEWTON *Principles* DEF II 5b DEF II VI 1  
 7a 8a LAI II 14a b COOL II 16b-17b LAWS  
 OF MOTION SCHOL 20a 22a K I LEMMA 10  
 8b 29a LEMMA II SCHOL 31b 32a PROP I  
 COROL 1 33a / OPTICS BK III 540a 541b  
 35 HUME *Human Understanding* Bk I IV D V  
 27 460c  
 51 TOLSTOY *War and Peace* BK X 470d-471a  
 BK XIV 589d
- 6d Force its kinds and its effect  
 8 ARISTOTLE *Physics* BK VII CH 5 333a d  
 BK VIII CH 1 [266 25 67<sup>a</sup> 2] 353c 354d /  
*Metaphysics* BK III C 1 2 [301<sup>b</sup> 32] 392d 393b  
 9 A I TOTI *Motion of Animals* I 3 234a c  
 16 KEPLER *Epitome* BK IV 938b 939a BK V  
 969a 971b  
 19 AQUINAS *Summa Theologiae* PART I Q 1 5  
 A 4 RE I 541c 542a PART Q 23 A 4  
 726a 727a  
 20 AQUINAS *Summa Theologiae* BK II Q 84  
 A 3 REP 2 985d 989b  
 28 GILBERT *Loadstone* BK I 26d 40b passim  
 31 DESCARTES *Rules of Method* / *Objections and  
 Replies* 231c 232a
- 34 NEWTON *Principles* DEF III VIII 5b 8a DEF  
 INITIONS SCH L 11a 13a L VII 14a b BK I  
 LEVIATHAN 10 28b 29a PROP 6 37b 38b BK III  
 PROP 6 COROL V 281b GENERAL SCHOL 371b-  
 372a / OPTICS BK III 531b 541b 542a  
 35 BERKELEY *Human Knowledge* SECT 103 106  
 433a d  
 36 SWIFT *Gull or* PART III 118b 119a  
 45 FARADAY *Researches in Electricity* 339a 340  
 514d 532a 595a 603d 646b 655d 670a  
 674a 685d 686b 817a 818d 819b d 850b d  
 855a c esp 855a c  
 54 FREUD *Narcissism* 400d 401a
- 6d(1) The relation of mass and force the law  
 of universal gravitation  
 16 KEPLER *Epitome* BK IV 910b  
 28 GILBERT *Loadstone* BK III 51c 52c  
 30 BACON *Novum Organum* BK II APH 24  
 154d 155a APH 36 166b c APH 40 170c 173d  
 31 DESCARTES *Objections and Replies* 231c 232a  
 34 NEWTON *Principles* BK I PROP 69-93 and  
 SCIOL 130a 152b esp PROP 75 76 134b 136a  
 BK III PROP 1-7 276a 282b esp PROP 7 281b  
 282b GENERAL SCHOL 371b / OPTICS BK III  
 531b 542a esp 541b 542a  
 35 BERKELEY *Human Knowledge* SECT 103 106  
 433a d  
 35 HUME *Human Understanding* SECT VII DIV  
 57 475d [in 2]  
 45 FARADAY *Researches in Electricity* 850b d  
 855a c esp 855a c  
 49 DARWIN *Origin of Species* 239c  
 51 TOLSTOY *War and Peace* EPILOGUE II 695c  
 54 FREUD *Narcissism* 400d 401a
- 6d(2) Action at a distance the field and med-  
 ium of force  
 8 ARISTOTLE *Physics* BK V II CH 10 [ 66<sup>a</sup> 27-  
 267<sup>a</sup> 21] 354b d / *Heavens* BK III C I  
 [301<sup>b</sup> 16-31] 393a 394a / *Dreams* CH 2 [459<sup>a</sup> 38  
 34] 703b  
 12 LACRETIUS *Nature of Things* BK VI [906-  
 1 90] 92b 94c  
 16 KEPLER *Epitome* BK IV 897b 905a esp 900b  
 901b 906a b 922 b 934b  
 19 AQUINAS *Summa Theologica* PART I Q 8 A  
 I EP 3 34d 35c  
 28 GILBERT *Loadstone* BK I 10a c BK III 26d  
 40b esp 30a 32c 42b-43c 45d-47b 51a-c  
 54d 55c BK V 102d 104b K VI 112d  
 28 GALILEO *Two New Sciences* THIRD DAY 202d  
 30 BACON *Novum Organum* BK I APH 37 168d  
 169c APH 45 176a 177c APH 48 183a c 186a  
 31 DESCARTES *Rules of Method* / *Discourse* PART  
 V 55c  
 34 NEWTON *Principles* BK I PROP VII 8a BK I  
 PROP 69 SCIOL 130b 131a BK II GENERAL  
 SCHOL 371b-372 / OPTICS BK I 507a 516b  
 520a 522a esp 521a b 531b 542 b passim  
 35 HUME *Human Understanding* SECT VII D V  
 57 475d [in 2]  
 42 KANT *Preface to Reason* 227b

**(6d) Force its kinds and its effects 6d(2) Action at-a-distance the field and medium of force)**

- 45 LAVOISIER *Elements of Chemistry* PART I 9b c  
 45 FARADAY *Researches in Electricity* 441a-442b  
 451a-454a 463d-465d 513d 514c 521a 524a  
 528c 532a 604b c 631b c 648b d 685d  
 686c 816b d 819a 819a d 824a b 832a c  
 840c 842c 855a c

**6d(3) The parallelogram law the composition of forces and the composition of velocities**

- 16 KEPLER *Epitome* BK V 969a 970a  
 28 GALILEO *Two New Sciences* THIRD DAY  
 224d 225c FOURTH DAY 240a d 243d 249b  
 passim  
 34 NEWTON *Principles* COROL I II 15a 16b  
 45 FARADAY *Researches in Electricity* 691b 692a  
 788c 793c 817a b  
 51 TOLSTOY *War and Peace* BK XIII 570d  
 53 JAMES *Psychology* 105a

**6e Work and energy the conservation of perpetual motion**

- 28 GILBERT *Loadstone* BK II 56b c  
 31 DESCARTES *Rules* XIII 27c  
 33 PASCAL *Equilibrium of Liquids* 392b 394b  
 34 NEWTON *Principles* COROL II 15a 16b LAWS  
 OF MOTION SCHOL. 23a 24a  
 45 FARADAY *Researches in Electricity* 582b-584a  
 837b c 837d 840c  
 53 JAMES *Psychology* 884a

**7 The extension of mechanical principles to other phenomena optics acoustics the theory of heat magnetism and electricity**

**7a Light the corpuscular and the wave theory**

- 8 ARISTOTLE *Soul* BK II C 17 [412<sup>a</sup>26-419<sup>a</sup>24]  
 649b 650b  
 12 LUCRETIVUS *Nature of Things* BK IV [364-  
 378] 48d-49a  
 16 KEPLER *Epitome* BK IV 896b 901a 903a  
 922b 926a passim  
 17 PLOTINUS *Fourth Ennead* TR V 183a 189b  
 19 AQUINAS *Summa Theologiae* PART I Q 53  
 A 3 ANS AND REP A 283b 284d Q 67 319d  
 354a Q 104 A 1 ANS AND REP I 4 534c 536c  
 20 AQUINAS *Summa Theologiae* PART III SUPPL.  
 Q 92 A 1 REP 15 1025c 1032b  
 28 GILBERT *Loadstone* BK II 43 b  
 30 BACON *Locum Organum* BK II APH 36  
 167a b AP I 37 169a 169a d 185a c / *New  
 Atlantis* 212d 213a  
 31 DESCARTES *Discourse* PART V 54d 55b  
 33 PASCAL *Vacuum* 366b 367a  
 34 NEWTON *Principles* BK I PROP 94-98 and  
 SCHOL 152b-157b BK II PROP 41 42 247a  
 249b PROP 50 SCHOL. 257b / *Optics* 377a

544a passim esp BK I 379a BK II 492a-495b  
 BK III 525b 531b

34 HUYGENS *Light* 551a 619b passim esp CH I  
 553a 563b

35 LOCKE *Human Understanding* BK III CH IV  
 SECT 10 261b d BK IV CH II SECT II 13 311c  
 312b

45 LAVOISIER *Elements of Chemistry* PART I  
 10b c

45 FARADAY *Researches in Electricity* 595a  
 607a c 817b c

49 DARWIN *Origin of Species* 239c

**7a(1) The laws of reflection and refraction**

- 7 PLATO *Timaeus* 454c-455a  
 8 ARISTOTLE *Meteorology* BK III CH 2-6 476b  
 482d / *Soul* BK II CH 8 [419<sup>a</sup>28 33] 651a  
 12 LUCRETIVUS *Nature of Things* BK IV [269 33]  
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 20 AQUINAS *Summa Theologiae* PART III SCPTM.  
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 31 DESCARTES *Rules* VIII 12b 13a / *Geometry*  
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 34 NEWTON *Principles* BK I PROP 94 152b 153b  
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 BK I 379a-423b passim esp 379a 386b 409a  
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 520b 522b 530b passim  
 34 HUYGENS *Light* CH II VI 563b 619b esp CH  
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**7a(2) The production of colors**

- 7 PLATO *Meno* 177b-c / *Timaeus* 465b d  
 12 LUCRETIVUS *Nature of Things* BK II [730-84]  
 24b 25c BK VI [524 526] 87b  
 16 KEPLER *Epitome* BK IV 901b  
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 6 A 4 80a 81  
 30 BACON *Locum Organum* BK II APH 23  
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 31 DESCARTES *Discourse* PART V 55c d / *Optics*  
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 48 MELVILLE *Moby Dick* 144b 145a

**7a(3) The speed of light**

- 12 LUCRETIVUS *Nature of Things* BK IV [1,6-20]  
 46c 47a BK VI [164 172] 82b c  
 28 GALILEO *Two New Sciences* FIRST DAY 148b-  
 149c  
 30 BACON *Locum Organum* BK II APH 46  
 178a b  
 31 DESCARTES *Discourse* PART V 55b  
 34 NEWTON *Principles* BK I PROP 96 SCH I  
 155a / *Optics* BK I 379b BK II 488b-492a  
 34 HUYGENS *Light* CH I 554b 557b CH III  
 570a 575a  
 45 FARADAY *Researches in Electricity* 817b

## 7a(4) The medium of light the ether

- 8 ARISTOTLE *Soul* BK II CH 7 [418 7 419 24]  
649b-650b BK III CH 12 [434<sup>b</sup>22 435 11]  
667c 668a / *Sense and the Sensible* CH 3 676a  
678b CH 6 [446<sup>a</sup>20-447<sup>a</sup>12] 684c 685c

12 LUCRETIVS *Nature of Things* BK V [449-508]  
67 c

16 KEPLER *Epitome* BK IV 857a b 901a b

18 AQUINAS *Summa Theologica* PART I Q 14 A  
6 ANS 80a 81c

20 BACON *Novum Organum* BK II AP 1 48  
186a

33 PASCAL *Vacuum* 366a 367a

34 NEWTON *Principles* BK III GENERAL SCHOL.  
372a / *Optics* BK III 520a 522b 525b 529a

34 HUYGENS *Light* CH I 553b 560b esp 557b  
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45 FARADAY *Researches in Electricity* 595b [fn 2]

## 7b Sound the mechanical explanation of acoustic phenomena

7 PLATO *Meno* 177b c / *Timaeus* 471b

8 ARISTOTLE *Soul* BK II CH 8 650c 652c

9 ARISTOTLE *Generation of Animals* BK V CH 7  
328c 330b

12 LUCRETIVS *Nature of Things* BK IV [524-  
614] 51a 52b

17 PLOTINUS *Fourth Ennead* TR V CH 5 186b d

22 GALILEO *Two New Sciences* FIRST DAY  
172b 177a c

30 BACON *Novum Organum* BK II APH 46  
178a H 48 185a c 186a / *New Atlantis*  
213b

31 DESCARTES *Rules* XIII 25c

34 NEWTON *Principles* BK II OP 41-5 and  
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34 HUYGENS *Light* CH I 554b 558b *passim*

45 FARADAY *Researches in Electricity* 485b-486b

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## 7c(1) The description and explanation of the phenomena of heat the hypothesis of calorific

7 PLATO *Timaeus* 462c d / *Theaetetus* 533b-c

8 ARISTOTLE *Heaven* BK II CH 7 380c d

12 LUCRETIVS *Nature of Things* BK V [59-  
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905] 91 92b

19 AQUINAS *Summa Theologica* PART I Q 67  
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31 DESCARTES *Objections and Replies* 231a b

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45 LAVOISIER *Elements of Chemistry* PART I  
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45 FOURIER *Theory of Heat* 189a 251b *passim*

45 FARADAY *Researches in Electricity* 812b c  
813b-815b 857a 858d

51 TOLSTOY *War and Peace* BK XIII 587b c  
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## 7c(2) The measurement and the mathematical analysis of the quantities of heat

33 PASCAL *Great Experiment* 388a

45 LAVOISIER *Elements of Chemistry* PART I  
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## 7d Magnetism the great magnet of the earth

10 GALEN *Anatomy of Faculties* BK I CH 14 177a  
178c

12 LUCRETIVS *Nature of Things* BK VI [906-  
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28 GILBERT *Loadstone* BK I 23b 25d BK VI  
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30 BACON *Novum Organum* BK II APH 36  
166c 167a APH 45 176b-c APH 45 183b-c

36 SWIFT *Gulliver* PART III 100a 102a

45 FARADAY *Researches in Electricity* 286a 294a  
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7 PLATO *Ion* 144b / *Timaeus* 471b-c

8 ARISTOTLE *Physics* BK VIII CH I [266<sup>b</sup>30-  
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30 BACON *Novum Organum* BK II APH 25  
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## 7d(2) Magnetic force and magnetic fields

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28 GILBERT *Loadstone* BK II 26d-43 esp 38a  
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30 BACON *Novum Organum* BK II APH 37  
169b c APH 45 176b c

34 NEWTON *Principles* BK I PRO 69 SCHOL  
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48 M L V *Moby Duck*, 376b-379a

(7) *The extension of mechanical principles to other phenomena optics acoustics the theory of heat magnetism and electricity*

440b d 514c 515a d 522b d 532d 541b d  
584a c 824b 830b 848b d 855a c

7e Electricity electrostatics and electrodynamics

7e(3) The relation of electricity and magnetism the electromagnetic field

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Discussions of the role of experiment induction and hypotheses in physical science see EXPERIENCE 3a-5c HYPOTHESIS 4b-4d INDUCTION 5 LOGIC 4b PHYSICS 4a-4d SCIENCE 5a-5c and for the physicist's treatment of causes see CAUSE 2 5b 6 NATURE 3c(3) PHYSICS 2b SCIENCE 4c

The general theory of applied mathematics or mathematical physics see ASTRONOMY 2c MATHEMATICS 5b PHYSICS 1b 3 SCIENCE 5c

Other discussions of the mathematical ideas or operations which are applied in mechanics see MATHEMATICS 4a-4d QUANTITY 3d(1) 4c 6b

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## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups

I Works by authors represented in this collection

II Works by authors not represented in this collection

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## Chapter 55 MEDICINE

### INTRODUCTION

**M**EDICINE is the name of an art of a science or group of sciences and of a learned profession whose members are proficient in these sciences and experienced in the practice of the art. By derivation it is also the name for curative drugs, physics, or other remedies prescribed by the physician. The archaic usage of the English word *physic* as the name for the art, practice, and profession of what is now generally called *medicine* suggests what the word's Greek root signifies, namely, that the physician, no less than the physicist, is a student of nature.

There is one other historic use of *medicine* which indicates its scope and connections in the western tradition. When mediaeval institutions first shaped the university, the basic divisions of learning then embodied in its structure reflected different uses of learning as well as differences in subject matter. The three faculties of *medicine*, *law*, and *theology* not only disciplined their students in different branches of knowledge but also trained them for distinct applications of knowledge to practice.

The faculty of *medicine* represented all the natural sciences, especially those which have come to be called *biological sciences*, just as the faculty of *law* or *jurisprudence* represented all the moral sciences and their later offshoots now called *social sciences*. The doctor of *medicine* was concerned with knowledge bearing on the relation of man to nature, as the doctor of *law* was concerned with knowledge bearing on the relation of man to man, and the doctor of *theology* with knowledge bearing on the relation of man to God.

It is a curious accident that the word *doctor*, which in origin signified the competence to teach others who might practice in each of these great fields of learning, has come in popular usage to designate not the teacher but the

practitioner and chiefly the practitioner in only one of the learned professions. *Medicine* may not deserve the implied emphasis upon the learning of its practitioners, but there would be some truth in granting it the distinction of being the oldest of the professions in the sense that it comprises a group of men who not only share a common training in the relevant sciences and arts but who also have adopted a code of practice and obligated themselves to perform a service to their fellow men.

The Hippocratic Oath, sworn to in the name of Apollo, the physician and Aesculapius, and Health, and all the gods and goddesses, is the first explicit formulation of a professional ideal. In the collection of writings attributed to Hippocrates, *The Law* explicitly indicates, as *The Oath* implies, that there are intellectual as well as moral conditions to be fulfilled by those who would dedicate themselves to the service of health. Only those who have satisfied all requisites for the study of *medicine* and by diligent application have acquired a true knowledge of it shall be esteemed physicians, not only in name but in reality.

The same high conception of *medicine* appears in the Bible. We read in *Ecclesiasticus*: Honor the physician for the need thou hast of him, for the most High hath created him. For all healing is from God, and he shall receive gifts of the king. The skill of the physician shall lift up his head, and in the sight of great men he shall be praised. The most High hath created medicines out of the earth, and a wise man will not abhor them. The virtue of these things is come to the knowledge of men, and the most High hath given knowledge to men that he may be honored in his wonders. By these he shall cure and shall allay their pains, and of these the apothecary shall make sweet confections, and shall make up ointments of health.



and of his works there shall be no end For the peace of God is over all the face of the earth

FIVE OF THE authors of the great books—Hippocrates Galen Gilbert Harvey and Freud—belonged to the profession of medicine They were major figures in its history Practitioners of its arts they were also contributors to the sciences concerned with health and disease Three others combined medicine with other pursuits Copernicus studied medicine at Padua and devoted considerable time to its practice Locke was Lord Shaftesbury's personal physician James took a medical degree at Harvard after years spent in the biological sciences Still another Rabelais not only studied and practiced medicine but also edited the *Aphorisms of Hippocrates and Galen's little treatise on the medical art* His knowledge of medicine and his observation of its contemporary practices can be readily discerned in his comic exaggerations of anatomical and physiological detail and of regimens of diet or exercise

The discussion of medicine in the great books is not limited to its professors or practitioners Montaigne has many doubts about medical diagnosis and the possibility of charting the causes of disease or the remedies which cure The patient's ignorance permits the physician to claim credit for his successes and to blame fortune for his failures

Montaigne characteristically delights in observing that the doctors disagree He offers as one example of the ancient controversy in physics the following Herophilus lodges the original cause of all disease in the humours Erasistratus in the blood of the arteries Asclepiades in the invisible atoms of the pores Alcmaeon in the exuberance or defect of our bodily strength Diocles in the inequality of the elements of which the body is composed and in the quality of the air we breathe Strato in the abundance crudity and corruption of the nourishment we take and Hippocrates lodges it in the spirits There is no great danger he adds, in our mistaking the height of the sun or the fraction of some astronomical computation but here where our whole being is concerned 'tis not wisdom to abandon ourselves to the mercy of the agitation of so many contrary winds

Such commentary on this bears more on the history of medicine than on the abiding problems of its science or art which from Hippocrates to Freud have been more generally agreed upon than the theories proposed for their solution Of similar historical significance are the passages in the great works of history which describe the phenomena of disease as they appeared to contemporary observers the plagues which ravaged Athens Rome and London or the maladies which afflicted eminent individuals Poetry as well as history and biography contributes to this record The novels of Tolstoy and Fielding the plays of Shakespeare the tales of Cervantes and Chaucer the Greek tragedies and the Homeric epics furnish evidence of both the constant and the changing elements in the conception of disease the vocation of medicine and the social acceptance of the physician

The history of medicine is an epitome of the history of the natural sciences The researches of the Hippocratic school initiate specific methods of empirical investigation such as the systematic collection and comparison of observations and the painstaking record of individual case histories The fundamental concepts of medical theory reflect the philosophy of nature and of man Conflicting notions of the causes of disease focus major issues in biology such as the controversy in which Galen engages with Asclepiades and Erasistratus in the defense of what he supposes to be Hippocrates and Aristotle's organic view of nature against mechanism and atomism

Medicine moreover provides some of the clearest examples of the interdependence of theory and practice for the rules of the healing art put theories to work and to the test and as the rules are refined or altered by the accumulated experience of particular cases inductive insight leads to new theoretical generalizations As the work of Dr Harvey illustrates biological science is both the source and the reflection of medical knowledge Medicine also affords Bacon and Descartes the prime example of a useful application of the knowledge gained by the new methods they proposed

More than engineering or the invention of mechanical utilities medicine represents for them knowledge in the service of mankind

That science shall bear fruit in technology is not merely to be desired writes Descartes with a view to the invention of an infinity of arts and crafts but principally because it brings about the preservation of health which is without doubt the chief blessing and the foundation of all other blessings in this life. It is true that the medicine which is now in vogue contains little of which the utility is remarkable but without any intention of decrying it I am sure that there is no one even among those who make its study a profession who does not confess that all that men know is almost nothing in comparison with what remains to be known.

The subsequent history of medicine some of the great documents of which are cited in the list of Additional Readings under the names of Jenner Bichat Virchow Claude Bernard and Koch seems to substantiate Descartes' prophecy. But it also seems to be true that the major problems of medical practice are not greatly altered or diminished by the tremendous increase in our knowledge of the causes of specific diseases and our vast store of well tested remedies.

What sort of art medicine is to what extent the physician should let nature run its course with what restraint or prudence the physician should apply general rules to particular cases whether health is better served by the general practitioner treating the whole man or by a specialist treating a special organ how the relation of the physician to his patient himself a therapeutic factor and underlies the effectiveness of his skill in all other respects to what extent mind and body interact both in the origin and in the cure of disease—these are the problems of medicine concerning which Hippocrates and Galen can converse with Osler and Freud almost as contemporaries.

The distinction made in the chapter on Art between the simply productive and the cooperative arts associates medicine with agriculture and teaching and separates these arts which merely help a natural result to come about from the arts which produce an effect that would never occur without the work of the artist. Plants grow and reproduce without the help of farmers. The mind can discover some

truth without the aid of teachers. Animals and men can preserve and regain their health without the care of physicians. But without shoemakers or house builders shoes and houses would not be produced.

The art of medicine does not produce health in the sense in which the shoemaker produces a shoe or the sculptor a statue. These other arts imitate nature by embodying natural forms or functions in materials wherein they do not naturally arise. An art like medicine seems to imitate nature by cooperating with natural processes. It follows the course of nature itself and by working with it enables the natural result to eventuate more surely than it might if art made no attempt to overcome the factors of chance.

Socrates expresses this understanding of the physician's art when he uses the metaphor of midwifery to characterize his own method of teaching. As it is the mother who labors and gives birth so it is the student who is primarily active in the process of learning. The teacher like the midwife merely assists in a natural process which might be more painful and might possibly fail without such help. The teacher writes Aquinas only brings exterior help as does the physician who heals just as the interior nature is the principal cause of the healing so the interior light of the intellect is the principal cause of knowledge.

Health he continues is caused in a sick man sometimes by an exterior principle namely by the medical art sometimes by an interior principle as when a man is healed by the force of nature. Just as nature heals a man by alteration digestion rejection of the matter that caused the sickness so does art. The exterior principle art acts not as a primary agent but as helping the primary agent which is the interior principle and by furnishing it with instruments and assistance of which the interior principle makes use in producing the effect. Thus the physician strengthens nature and employs food and medicine of which nature makes use for the intended end.

The subordination of the medical art to nature seems to be the keystone of the whole structure of Hippocratic medicine. It is implied in the emphasis which Hippocrates places on the control of the patient's regimen espe-

cially the elements of his diet the exercise of his body and the general circumstances of his life Even in the treatment of acute diseases Hippocrates looks to the regimen first prescribing changes or special articles of diet

Medicines or drugs perform an auxiliary function Surgery is always a last resort to be used primarily in the treatment of injuries and not to be employed in diseases which will yield to a course of regimen and medication There is an element of violence in surgery which puts it last among the means of an art which should work by cooperating with nature rather than by operating on it And among medicines those are preferable which like pisan a special preparation of barley water derive their efficacy from properties similar to those of normal nutriment

According to Hippocrates the control of regimen is not only the primary factor in therapy but also the original principle of medicine In the treatise *On Ancient Medicine* he points out that the art of medicine would not have been invented at first nor would it have been made the subject of investigation (for there would have been no need for it) if when men are indisposed the same food and other articles of regimen which they eat and drink when in good health were proper for them and if no other were preferable to these The diet and food which people in health now use would not have been discovered provided it suited man to eat and drink in like manner as the ox the horse and all other animals What other object then has he in view who is called a physician and is admitted to be a practitioner of the art who found out the regimen and diet befitting the sick than he who originally found out and prepared for all mankind that kind of food which we all now use in place of the former savage and brutish mode of living?

THE SAME CONCEPTION of medicine's relation to nature seems to be fundamental in Galen's thought He attributes to Hippocrates his own reformulation of the insight that the art of healing consists in imitating the health giving and healing powers of nature itself The medical doctrines which he criticizes were based on the atomism of Epicurus They regarded the body as a complex piece of machinery When it

gets out of order it needs a mechanic and mechanical remedies to fix it On the contrary it seems to him the living body is an organic unity not an aggregation of atoms or a system of interlocking parts

Nature is not posterior to the corpuses, but a long way prior to them Galen writes.

Therefore it is nature which put to ether the bodies both of plants and animals and thus she does by virtue of certain faculties which she possesses—these being on the one hand attractive and assimilative of what is appropriate and on the other expulsive of what is foreign Further she skillfully moulds everything during the stage of genesis and she also provides for the creatures after birth employing here other faculties again

Nature according to Galen works not by the external impact of part upon part but by its faculties or powers for the performance of natural functions and the production of natural effects Galen's polemic against the mechanists thus leads him to reverse the usual statement Where Hippocrates looks upon nature as the model for art to follow Galen calls Nature the artist in order to set his view in sharp contrast to all mechanical conceptions Instead of admiring Nature's artistic skill he declares they even go so far as to scoff and maintain that things have been made by Nature for no purpose! Nature Galen holds produces effects according to its powers and in conformity to its needs It seems to work with intelligence and for an end not blindly and by chance The true art of medicine therefore borrows its method from Nature's art

The conception of nature as an artist may be taken metaphorically or literally but the insight controlling the practice of medicine remains the same The physician is a servant not a master of nature Aristotle's doctrine of final causes summarized in the maxim Galen so often repeats—that nothing is done by Nature in vain—furnishes a principle for physiological research as well as the rules of medical art Whether because of faulty observation on his part or because of a failure to apply his own principle Galen leaves to Harvey one of the great discoveries which can be credited to close attention to final causes Always observant of the relation between structure and function

always questioning the purpose which bodily organs serve Harvey establishes the fact that the blood circulates and finds therein the reason for the structure of the heart its motions and its relation to the lungs

It may also be possible for a principle to be carried to excess Montaigne for example expresses his distrust of medical theory and the physician's remedies by an unqualified trust in nature's own resourcefulness Drugs especially purgatives, do violence to nature Men disturb and irritate the disease by contrary oppositions it must be the way of living that must gently dissolve and bring it to an end The violent gripings and contest between the drug and the disease are ever to our loss since the combat is fought within ourselves and that the drug is an assistant not to be trusted being in its own nature an enemy to our health and by trouble having only access into our condition Let it alone a little the general order of things that takes care of fleas and moles also takes care of men if they will have the same patience that fleas and moles have to leave it to itself

Nor is there any need for an art of medicine when nature can do better by herself We ought to grant free passage to diseases I find they stay less with me who let them alone and I have lost some reputed the most tenacious and obstinate by their own decay without help and without art and contrary to its rules Let us a little permit Nature to take her own way she better understands her own affairs than we The Hippocratic doctrine seems to occupy a middle ground between this view of nature as an unerring artist and the opposite extreme which permits all sorts of tampering and tinkering with the machinery of the body

THE ART OF MEDICINE consists in three things writes Hippocrates the disease the patient, and the physician The physician is the servant of the art and the patient must combat the disease along with the physician With regard to diseases the physician must have two special objects in view to do good and to do no harm

This celebrated summary indicates the two kinds of knowledge which the physician should possess He should know about disease in general so that he can classify diseases according to

their special causes their symptoms, and the typical course each seems to take Such knowledge underlies the doctor's diagnosis of the patient's malady That in turn determines his prognosis of the stages through which the illness will run from its onset through various crises or turning points to its *sequelae* or consequences Upon the accuracy of his diagnosis and the certainty of his prognosis may depend the effectiveness of any remedy the physician prescribes in the individual case

But individual cases are seldom completely alike The physician must therefore know the patient as an individual and all the relevant circumstances of his life as well as the particular characteristics of this instance of the disease even though its general characteristics are familiar to him from much experience in the treatment of similar cases The *Book of Prognostics* and the treatise *Of the Epidemics* in the Hippocratic collection seem to combine both these kinds of knowledge They enumerate the symptoms by which diseases can be recognized and their future foretold They also set forth individual case histories from which such generalizations can be drawn

The practice of medicine thus appears to require more than scientific knowledge of health and disease in general and more than general rules of art It requires the sort of experience which can be gained only from actual practice Without prudence born of experience general rules can be misapplied for no general rule in medicine as in law fits all cases alike The most famous of Hippocratic aphorisms conveys a sense of the hazards of medical practice Life is short and Art long the crisis fleeting experiment perilous and decision difficult The physician must not only be prepared to do what is right himself but also to make the patient the attendants and the externals cooperate

To persuade the patient to cooperate is the first maxim governing the physician's relation to his patient Plato contrasts the right and wrong relation between doctor and patient by comparing the practice of the physicians who treated slaves and those who treated free men

The slave doctor he says prescribes what mere experience suggests as if he had exact knowledge and when he has given his orders like a tyrant he rushes off with equal assurance

to some other servant who is ill. But the other doctor who is a freeman attends and practices upon freemen and he carries his enquires far back and goes into the nature of the disorder he enters into discourse with the patient and with his friends and is at once getting information from the sick man and also instructing him as far as he is able and he will not prescribe for him until he has first convinced him at last when he has brought the patient more and more under his persuasive influences and set him on the road to health he attempts to effect a cure.

In the treatment of mental diseases as Freud points out the proper development and management of the relationship between patient and physician is itself a major factor in psychotherapy. It presupposes a profound interest for psychological incidents as well as a personal sympathy for the patient, he writes. It requires the full consent and the attention of the patients but above all their confidence for the analysis regularly leads to the inmost and most secretly guarded psychic processes. Since fears, anxieties or other temperamental dispositions on the part of the patient may affect the course of an organic ailment the patient's confidence in the physician and even more generally his emotional response to the physician's character play an important role in the successful treatment of bodily ills as well as of mental or functional disorders.

Hippocrates recommends that the physician cultivate prognosis not only for the guidance of his own actions but also for the sake of the patient. By foreseeing and foretelling in the presence of the sick the present the past and the future and explaining the omens which patients have been guilty of he will be the more readily believed to be acquainted with the circumstances of the sick so that men will have confidence to entrust themselves to such a physician.

THE RELATION OF physician and patient raises a question about the organization of the practice of medicine to which opposite answers have been given in both ancient and modern times. Herodotus reports a high degree of medical specialization in Egypt. Medicine is practised among them on a plan of separation he writes

each physician treats a single disorder and no more thus the country swarms with medical practitioners some undertaking to cure diseases of the eye others of the hand others a an of the teeth others of the intestines and some those which are not local. The fact that the next paragraph begins a discussion of funerals can hardly be taken as revealing the attitude of Herodotus toward specialization though his comment on the Egyptian practice does imply a contrast to Greek medicine.

One sentence in the Hippocratic Oath—I will not cut persons laboring under the stone but will leave this to be done by men who are practitioners of this work—indicates some division of labor in the organization of Greek medicine. But apart from the special tasks and skills of surgery the Hippocratic conception of the physician's work favors the practice of general medicine rather than specialization. The man not the disease is to be treated and to treat him well the physician must examine the man as a whole not merely the organ or body part in which the disorder seems to be located. The Hippocratic formula for getting a case history calls for an inquiry into the background of the individual's life his antecedents his occupation his temperament the patient's habits regimen and pursuits his conversation manners taciturnity thoughts sleep or absence of sleep and sometimes his dreams what they are and when they occur his picking and scratching his tears. From these as well as from the symptoms says Hippocrates we must form our judgment.

The defense of general practice against specialization is part of Galen's argument with his adversaries. Treatment of the disordered part as if it could be isolated from the living unity of the whole man is to Galen one of the deplorable consequences in medical practice of atomism or mechanism in medical theory.

This issue is argued again and again in the history of medicine with each side pressing the advantages in its favor. Montaigne for example states the case for the specialist by analogy with the advantages of specialization in other arts. As we have doublet and breeches makers distinct trades to clothe us and are so much the better fitted seeing that each of them meddles only with his own business and has less to

trouble his head with than the tailor who undertakes them all and as in matter of diet great persons for their better convenience have cooks for the different offices so also as to the cure of our maladies With Freud and the development of a greater awareness of the psychological origin of many bodily disorders, a new factor enters into the argument. It tends to favor the general practitioner who from his acquaintance with the patient as a person may be better able than the specialist to detect hidden psychological causes.

THE CONCEPTION of disease is usually determined by the conception of health. The abnormality is judged and measured as a deviation from the norm. Hippocrates uses the outward appearance of man in a healthy condition as the standard for discerning the visible signs of illness. The physician, he says, should observe first the countenance of the patient if it be like those of persons in health and more so if like itself for this is the best of all where as the most opposite to it is the worst. He should also take note when he finds the patient reclining in a posture which resembles the normal disposition of the healthy body. To find the whole body lying in a relaxed state is a more favorable sign than to find him upon his back with the hands, neck and the legs extended.

The history of medicine especially on the side of its science and theory if not so much with regard to its art and practice can be told in terms of refinements in the classification of diseases and progressive discovery of their specific causes both internal and external predisposing and exciting. But the analysis of diseases according to their aetiology and by reference to the typical picture of the disease process leaves unanswered the general question about the nature of disease as a loss of health.

Apart from its causes and its symptoms its modes and its patterns: what is disease? This is the question of major speculative interest in the tradition of the great books. The answers given have a certain uniformity in spite of the varying terms in which they are expressed.

The humoral hypothesis of ancient medical theory for example conceives health as that condition of the body in which the physiolog-

ical elements are in a proper proportion or balance and in which the various parts or powers function harmoniously with one another. As health is harmony or good order in the body so disease consists in imbalance and disharmony—an excess or defect with consequent disproportion of the elements or the disorder of conflicting bodily processes.

In the *Timaeus* Plato first states this theory in terms of the four physical elements. There are four natures out of which the body is compacted: earth and fire and water and air and the unnatural excess or defect of these or the change of any of them from its own natural place into another produces disorders and diseases. He then considers the diseases which result from excess or defect of one or another of the four humours—blood, phlegm, black and yellow bile.

The humoral hypothesis which Hippocrates and Galen share with Plato and Aristotle undergoes many transformations in the history of medicine. The four elements or humours are replaced by other physiological factors such as the hormones or internal secretions or the elements of modern biochemistry. But constant throughout these changing formulations is the conception of health as an equilibrium and of disease as its loss through disorder and disproportion.

This broad conception of health and disease seems to apply to mental as well as bodily illness. There is not only a basic continuity between Plato's and Freud's discussion of the bodily origin of mental disorders and the psychic origin of physical ailments but the Freudian emphasis upon conflict and disintegration in the neurotic character—milder forms of the schizophrenic or split personality which characterizes insanity—also appeals to harmony as the principle of health. The language of modern psychiatry which refers to the integrated personality or the well balanced and adjusted individual defines the norm or the ideal of mental health.

The various kinds and degrees of mental disorder especially those which seem to be entirely functional rather than organic represent abnormalities which though they differ in cause, symptom and tendency have in common some excess or defect in the psychic struc-

ture or some unresolved conflict in the nature of man. Freud's psychoanalytic method in the treatment of mental ills places psychotherapy in the main tradition of medical practice for in addition to insisting that the patient shall help to cure himself it is directed toward the resolution of conflict restoring the harmony which is health.

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HO *ter. Iliad* BK II [265-283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAM *s Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b-164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART BK CH) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* BK II [265-283] 12d.

**BIBLE REFERENCES.** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verse the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7.45—(D) II *Esdrae* 7.46.

**SYMBOLS.** The abbreviation esp calls the reader's attention to one or more especially relevant parts of a whole reference. *passim* signifies that the topic is discussed intermittently rather than continuously in the works or passages cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of THE GUIDE as contained in the Preface.

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 29 CERVANTES *Don Quixote* PART II 345a 346b  
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 31 DESCARTES *Discourse* PART VI 61b c  
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*Phaedrus* 136b 137c / *Gorgias* 260a 262a /  
268d 270b 282c d 289c d / *Republic* bk 1  
298a 299a bk iii 337b 338a bk v 361d  
362a / *Theaetetus* 515d 517b 525d / *Symposium*  
556d 558d / *Statesman* 599a 602 / *Philebus*  
633b c / *Law* bk iv 684c 685a / *See nihil*  
*Letter* 803 804b
- 8 *Aristotle Topics* bk I ch 3 144a b bk v  
7 [123<sup>b</sup> 133 137<sup>a</sup>] 189a bk vi c 1 [142<sup>a</sup> 30-  
143 9] 196b-c / *Physics* bk I c 8 [191 33 39]  
267b bk I c 1 [19 23 32] 268d 269a  
[193<sup>a</sup> 13 19] 269d 270a ch 8 [199<sup>a</sup> 26 3 177a  
/ *Metaphysics* bk vii ch 7 [1032 25 29]  
355b d
- 9 *Aristotle Parts of Animals* bk I ch 1 [639<sup>b</sup>  
15 24] 161d 162a / *Ethics* bk I ch 1 [1094 6-  
9] 339a ch 6 [1096<sup>a</sup> 29-33] 341c c 7 [1097<sup>a</sup>  
15 23] 342c ch 13 [1102 15 26] 347c bk I  
ch 2 [1104 1-9] 349b-c bk iii ch 3 [1 12 30-  
9] 358b-c bk v ch 11 [1138 29-34] 386d  
387a bk vi c 1 [1 38<sup>b</sup> 5 34] 387b ch 7  
[1 41 20-34] 390a b ch 12 [1 43<sup>a</sup> 21 1144 5]  
393b-c part iii ch 13 [1 45<sup>b</sup> 12] 394d bk I  
ch II [1180<sup>b</sup> 7 1 81<sup>a</sup>] 435b-436a / *Poetics*  
bk I ch 9 [1257<sup>a</sup> 5 30] 451d [1258 10-24]  
452b c 10 [1258 23 33] 452b-c bk II ch 8  
[1268<sup>a</sup> 33 37] 464d bk III ch 6 [2 8<sup>b</sup> 36-  
1279<sup>a</sup>] 476b ch 11 [1281<sup>a</sup> 40-128 6] 479d

- ch 15 [1280<sup>a</sup> 10-15] 484b ch 16 [1287 32 33]  
485d-486a bk vii ch 2 [1324<sup>a</sup> 27 31] 528d  
ch 13 [1331<sup>a</sup> 30-38] 536c / *Rhetoric* bk I  
ch 1 [1355<sup>a</sup> 9-14] 594d 595a ch 2 [1355<sup>b</sup> 26-  
36] 595b [1356<sup>a</sup> 28 35] 596b-c
- 10 *Hippocrates Ancient Medicine* par 1 1a b  
par 9 3b d / *Regimen in Acute Diseases* par 3  
27a-c / *The Law* par 1-3 144a d
- 13 *Virgil Aeneid* d bk XII [391 397] 364b
- 14 *Plutarch Lycurgus* 34b / *Fences* 129b d /  
*Demetrius* 726a d
- 17 *Plotinus First Ennead* tr ix ch II 250c  
251a
- 18 *Augustine Christian Doctrine* bk II ch 30  
651c d
- 20 *Aquinas Summa Theologiae* PART I II 117  
A 1 ANS 2nd REP 595d 597c PART I II Q 14  
A 4 ANS 679b d
- 24 *Rabelais Gargantua and Pantagruel* bk II  
76b-c bk III 186a c
- 25 *Montaigne Essays* 450d 451a
- 30 *Bacon Advancement of Learning* 5b 6a 50c  
51d 32d 53b 77d 78d
- 33 *Pascal Pensées* 33 176b
- 36 *Swift Gulliver* PART III 112b 113a
- 37 *Felding Tom Jones* 86a c 90b
- 39 *Smith Wealth of Nations* bk I 44c
- 51 *Tolstoy War and Peace* bk x 448d
- 51 *Freud Hysteria* 108a II

### 3 The practice of medicine

#### 3a The application of rules of art to particu- lar cases in medical practice

- 7 *Plato Statesman* 599a b 600b d / *Law*  
bk v 684c 685a
- 8 *Aristotle Metaphysics* bk I ch 1 [981 5 24]  
499b-c
- 9 *Aristotle Parts of Animals* bk I ch 1  
[639<sup>b</sup> 16-21] 161d 162a / *Ethics* bk II ch 2  
[1104 1-9] 349b-c bk III c 1 [1112 30-3 0]  
358b-c bk VI ch 1 [1138<sup>b</sup> 25 34] 387b ch 7  
[1141<sup>a</sup> 21] 390c d bk X ch 9 [1180<sup>b</sup> 23]  
435b II / *Poetics* bk III ch 15 [1 86 10-15]  
484b bk VI ch 13 [1331<sup>a</sup> 30-38] 536c /  
*Rhetoric* bk I ch 2 [1356<sup>a</sup> 28 32] 596b-c
- 10 *Hippocrates Ancient Medicine* par 2 4b c  
par 20-21 7b 8a / *Air Water Places* par 2  
9b c / *Regimen in Acute Diseases* par 18 34d  
35b / *Epidemics* bk I sect III par 1 49c d  
bk III sect III par 6 59b c / *Aphorisms*  
par 1 94d 95a par 7c 117c / *Aphorisms*  
sect 1 par 9 131c
- 12 *Emmettus De con-* s bk II ch 17 159a b
- 30 *Bacon Advancement of Learning* 52a 53c
- 36 *Swift Gulliver* PART I 112b 113a
- 36 *Sterne Tristram Shandy* 372b 373a
- 37 *Felding Tom Jones* 70 71b
- 42 *Kant Pure Reason* n 60b c
- 51 *Tolstoy War and Peace* bk ix 372a 373b
- 54 *Farou Hysteria* 32 c / *General Introduction* n  
607a b / *New Introductory Lecture* 871d

(3) *The practice of medicine* \*

## 3b General and specialized practice treating the whole man or the isolated part

- 6 HERODOTUS *History* bk II 65c  
 7 PLATO *Charmides* 13b / *Phaedrus* 136b-c / *Gorgias* 282c d / *Timaeus* 474d-475d / *Laus* bk I 767d  
 10 HIPOCRATES *Ancient Medicine* par 20 7b d / *Epidemics* K I SECT III par 1 49c d / *Ictus of the Head* par 20 69d  
 \*5 MONTAIGNE *Essays* 373c d  
 44 BOSWELL *John on* 350c d  
 46 HEGEL *Philosophy of History* PART I 250c  
 51 TOLSTOY *War and Peace* bk IV 372a 373b  
 52 DOSTOEVSKY *Brothers Karamazov* bk VI 340c d  
 54 FREUD *Hysteria* 62b c / *General Introduction* 451b-452a 620b c / *New Introductory Lectures* 871d 872a

## 3c Diagnosis and prognosis the interpretation of symptoms case histories

- OLD TESTAMENT *Leviticus* 13 14  
 6 HERODOTUS *History* bk I 44d-45a  
 8 THUCYDIDES *Peloponnesian War* bk II 399c 400c  
 7 PLATO *Protagoras* 59b c / *Laus* bk IV 684c 685a  
 8 ARISTOTLE *Prior Analytics* bk II CH 27 [70 3 39] 92a c passim / *Prophesyng* CH I [463 3 10] 707b 708a  
 9 ARISTOTLE *History of Animals* bk I C I 10 [53, 14 20] 64b K VII CH 12 [585 10-12] 114c bk VIII CH 18 [601 6-8] 127c CH 21 [603 20 24] 129c CH 3 [6 4 12]-CH 24 [604 10] 130a c / *Rhetoric* bk I CH 2 [137 34 21] 597b c  
 10 HIPOCRATES *Art Waters Places* par 10 12 13b-14b / *Prognosis* 19a 26c c esp par 1 19a b par 15 22d 23a p r 25 26a c / *Regimen Acute Dues* c APPEND T par 9-14 38b 40d / *Epidemics* bk I SECT II par 5 46c d SECT II par 1-CASE XIV 49c 53d bk III SECT I II 53d 56d SECT I par 16-CASE XVI 59b 63d / *Injuries of the Head* par 5 65a par 8 65c par 10-12 65d 67a par 19 69b c / *Fractures* par 5 76d 77a / *Art of Lections* par 10 94d 95a par 6 99a b par 30 99c 100b par 51 109a III par 54 111a par 57 111d 112b par 58 112d par 59 113b / *Instruments of Reduction* par 4 24 122d 126c passim / *Aphorisms* SECT I par 2 131a par 12 131d SECT II 132b 134a passim SECT IV par 17 SECT V par 15 135d 138b SECT V par 30-SECT VII par 86 138d 144 c passim  
 12 LUCRETIUS *Nature of Things* bk VI [1138-1214] 95b 96b  
 19 AQUINAS *Summa Theologiae* PART I Q 13 A 5 ANS 66b 67d A 6 ANS 67d 68c Q 57 A 3 AN 297b 298a A 4 ANS 298a 299a  
 24 RABELAIS *Gargantua and Pantagruel* bk III 397a

25 MONTAIGNE *Essays* 370c d 372b-373b 531d 532b30 MACON *Advancement of Learning* 49b 50b 52a 52c d36 SWIFT *Gulliver* PART III 112b 113a 114b PART IV 156b 157a37 FIELDRIDGE *Tom Jones* 33 34a 70c 71b 145b 146a 157a 158a 373c d51 TOLSTOY *War and Peace* bk I 38a d bk VII 307a II bk IV 372a 373b bk VI 524c 525a52 DOSTOEVSKY *Others Karamazov* bk VI 340c

54 FREUD *Origins and Development of Psychoanalysis* 1b 2b / *Hysteria* 31b d 38d-40a 50b c 54b 56c 60b-62c esp 60b d 67a 90d esp 87a d / *Psychoanalytical Therapy* 134b / *Wulf Psychoanalysis* 128a 129d imp 129c d / *Interpretation of Dreams* 151a c / *General Introduction* 550d 557a esp 556a b 593b c 605b 607b passim esp 606c 607b / *Introduction to Lectures* 872d 873a

## 3d The factors in prevention and therapy

## 3d(1) Control of regimen climate diet exercise occupation daily routine

- OLD TESTAMENT *Proverbs* 16:24 17:22  
 APO RYTHA *Ecclesiasticus* 30-5 31 19-23 37:29 31-(D) OT *Ecclesiasticus* 30:27 31:2 27 37:32 34  
 6 HERODOTUS *History* bk II 64c d  
 7 PLATO *Protagoras* 50d / *Symposium* 155c d / *Gorgia* 261a d 289c d / *Republic* bk I 334b 337a bk IV 345b-c / *Timaeus* 474d 475d / *Laus* bk II 656b-c / *Seven Years' Letter* 803c 804b  
 8 ARISTOTLE *Heaven* bk II CH 12 [193 14 18] 383d 384b  
 9 ARISTOTLE *History of Animals* bk VII C I 12 114c bk VIII CH 21 [6 3 5 34] 129d / *Ethics* bk II C I 2 [1104 10 26] 349c d bk VI CH I [111 14 21] 390c d / *Politics* bk VII CH II [1330 34 41] 535a CH 16 [1335 12 19] 540c CH 17 [1336 4 39] 541a-c bk VIII C I 4 [133 39-1339 0] 544b-c / *Rhetoric* bk I CH 6 [1362 29-31] 603a CH 7 [1364 3 5] 605b  
 10 HIPOCRATES *Acute Medicine* par 3 11 1d 4b par 13 16 4c 6b par 20 7b d / *Art Waters Places* par 1 9a b par 3-7 9c 12a par 9-10 12d 14 par 12 14b d par 15 15b-c par 19-21 16c 17b / *Regimen Acute Dues* 26a 44a-c esp par 9 29d 30c APPEND X par 18 41a d / *Epidemics* bk I SECT I par 1 44a b SECT II par 1 45a c p r 7-8 47a c bk III SECT III par 2 50d 57a par 15 59b / *Surgery* par 20 73d / *Fractures* par 7 77c 78a par 9 78c d par 36 83d 89a / *Articulations* par 9 94b c par 50 108b d par 55 111a c par 58 112b 113a par 81 120d / *Aphorisms* SECT I par 3 11 131a-c par 13 19 131d 132 SECT II par 4 132b p r 16-1 22 132d par 36 133b par 38 45 133c par 49-50

- 133d sect III par 1 19 134a d sect v par 16-9 138b d sect vii p r 56 143a par 66 143c / *Ulcers* par 1 145a / *Sacred Disease* 160b d
- 10 GLEN *Natural Faculties* bk II ch 8 191b-195c
- 14 PLUTARCH *Lycurgus* 34b d 40c 42a / *Cæsar* 583d 584b
- 22 CHALCER *Aunt's Priest's Tale* [1482-852] 450a b
- 24 RABELAIS *Gargantua and Pantagruel* bk I 26d 29d 48d-49a bk II 68a 69a c bk III 134d 135a 152a 153b 188d 191c
- 25 MONTAIGNE *Essays* 66c 67a 374a 375a 524b 527a 528a
- 28 HARVEY *On Animal Generation* on 433c
- 29 C RIVANTES *Don Quixote* PART II 345a 346b
- 30 BACON *Advancement of Learning* 26c d 47a b 53d 54a / *New Atlantis* 201b 211b-212
- 32 MILTON *Paradise Lost* bk XI [524-534] 310b 311a
- 36 SWIFT *Gulliver* PART IV 163b
- 36 STERNE *Tristram Shandy* 325a 326b
- 37 FIELDING *Tom Jones* 70c 71b 145b 146a
- 38 ROUSSEAU *Emile* 335a b 336d 337a
- 39 SMITH *History of Nations* bk IV 293d 294b
- 44 BOSWELL *Johnson* 171c d
- 46 MELVILLE *Moby-Dick* 353b 354a
- 48 DARWIN *Descent of Man* 356d 357b
- 50 M *Capital* 324c 325c
- 51 TOLSTOY *War and Peace* bk I 52a bk V 215c d bk IX 372a 373b
- 54 FREUD *Hysteria* 64d 65a

- 10 GALEN *Nat. ad Facult.* bk I ch 13 176a 177a ch 14 179a b bk II ch 9 195d 196a bk III ch 13 209c
- 22 CAUCER *Prologue* [411-444] 166b 167a / *Tale of Alcibiades* par 10 403a
- 24 RABELAIS *Gargantua and Pantagruel* bk I 26d bk II 9 b c 96a d 124d 125d bk III 140b 173d 174a 189a c 196d 225a 226d bk IV 226d 247a 310d 311c
- 25 MONTAIGNE *Essays* 90d 91b 360b 379c passim esp 369c 370a
- 27 SHAKESPEARE *All's Well That Ends Well* ACT I SC I [237-262] 147d 148b ACT II SC I [71-189] 149b 150c SC III [46-5] 151d 152a / *A King's Lear* ACT IV SC IV [1-10] 272b c
- 28 GILBERT *Ladstone* bk I 19c 22c bk II 35b c
- 28 HARVEY *Motion of the Heart* 297d
- 30 BACON *Advancement of Learning* 26c d 47a b 51d 53d esp 53a-c / *New Atlantis* 201b 212c
- 36 SWIFT *Gulliver* PART III 108b 109a 112b-113a PART IV 156b 157a 161b 162a 169a
- 36 STERNE *Tristram Shandy* 372b 373a
- 37 FIELDING *Tom Jones* 63a b 76b 83b
- 38 ROUSSEAU *Emile* 335d 337a
- 44 BOSWELL *Johnson* 257c d
- 49 DARWIN *Descent of Man* 323c
- 51 TOLSTOY *War and Peace* bk I 38b d bk V 215c d bk VIII 337d 338a bk IX 372a 373b 374a d bk X 449b c bk XII 533d 534a 535b c bk XIV 593a b bk XV 630b
- 54 FREUD *Hysteria* 40a b

## 3d(3) Surgery

## 3d(2) Medication drugs specifics

- AD CRY HA *Wisdom of Solomon* bk I 16 12-13 (D)
- OT B ok of II dom 16 12 / *Eccl. 1* 38 4-8 (D) OT Eccl. 1 38 4-8
- 4 HOWER *Mad* bk IV [188-219] 25d 26b bk V [399-906] 39c bk XI [342-348] 81c
- 6 HERODOTUS *History* bk IV 143a 157a
- 6 THUCYDIDES *Peloponnesian War* bk II 400b-c
- 7 PLATO *Timaean* 474d-475d / *Symposium* 601d 602a
- 9 ARISTOTLE *History of Animals* bk III ch 21 [522-531] 47d bk V ch 5 [530-540] 57b bk VIII c 1 [603-616] 129 c 1 24 [604-616-29] 130c ch 26 131a ch 29 [607-616] 132c d bk IX ch 6 [616-625] 133b / *Eth.* bk VI ch I [1138-1153] 387b
- 10 H *CRATES Ancient Medicine* c par 134c 5a par 24 8d 9a c / *Regimen in Acute Disease* p 1 26a d p 4 7 27c 29c par 14 17 32c 31c APPENDIX p 1 31 39c 40b par 16 40d p 1 26-39 43a-44a c / *Familiar* par 27 83b-c par 9 85d 86a / *Artulius* par 36 101d par 63 114d 115b / *Aphorisms* par 2 132d / *Ulcus* par 145a-c par 4 13 146b 149b / *Ulcus* par 2 13 150b 152d / *Hemorrhoid* par 2 3 152b d 153b p 6-7 153d 154a c

- 4 HOWER *Mad* bk VI [842-849] 81c
- 7 PLATO *Republic* bk II 336a b / *Statesman* 599a b 601d 602a
- 9 ARISTOTLE *History of Animals* bk III ch 4 [514-525] 38 bk VIII ch 22 [603-616] 129b-c bk IX c 5 [631-632-32] 157a c
- 10 HIPPOCRATES *Prognosis* par 23 25a b / *Regimen in Acute Disease* par 7 28d 29c APPENDIX par 2-6 35d 37a par 11 39c 40b par 24 42d par 29 43a b / *Ulcus* par 9 65c d par 13 21 67b 70a c / *Surgery* 70b d 74d esp par 2 70b par 4 71a b par 6 71b par 10 72a b / *Factus* 74b d 91d esp par 1 74b d 75a par 47 48 90d 91d / *Artulius* 91b d 121d esp par 61 113d 114a par 79 120b / *Instruments of Red* c 1 121b d 130d esp pa 4 129d 130c / *Aphorisms* ACT V par 68 140a SECT VI pa 2 140d par 31 141a par 47 141c SECT V par 46 48 142d par 53 143a par 87 144c / *Ulcus* par 14 17 149b 150a c / *Ulcus* par 5 151a b / *Hemorrhoid* par 2-6 152b d 151a
- 18 AUGUSTINE *Christian Doctrine* bk I c 14 627d 628a
- 24 RABELAIS *Gargantua and Pantagruel* bk II 119b bk III 196c
- 25 MONTAIGNE *Essays* 330b d 373a b

(3d *The factors in present n and therapy*  
3d(3) *Surgery*)

- 28 HARVEY *Motion of the Heart* 289d 290a /  
On Animal Generation 376d 377a 438b c  
30 BACON *Advancement of Learning* 52b c / *New Atlantis* 211d  
36 SIFT *Gulliver* PART III 113b PART IV 148b  
37 FIELDING *Tom Jones* 70c 71b 162a c  
38 ROUSSEAU *Inequality* 336d 337a  
51 TOLSTOY *War and Peace* BK X 464a-465c  
53 JAMES *Psychology* 844a  
54 FREUD *Hysteria* 81b c

4 The concept of health normal balance or harmony

- 7 PLATO *Charmides* 2d 3b / *Symposium* 155d 157a / *Meno* 175b / *Gorgias* 282c 283a / *Republic* BK III 334b 337a BK IV 355b d BK IX 422c d 427a / *Timaeus* 472a c 474d 475d / *Philebus* 616d 617a / *Laws* BK V 690a ■  
8 ARISTOTLE *Categories* CH 8 [8<sup>b</sup>25-9<sup>b</sup>28] 13d 14b / *Topics* BK III CH 1 [116<sup>b</sup>17-22] 163a b / *Physics* BK II CH 3 [246<sup>a</sup> 0<sup>b</sup>19] 329c 330a / *Metaphysics* BK V CH 2 [122<sup>b</sup>10-13] 544a / *Soul* BK I CH 4 [407<sup>b</sup>31 408 a] 637c BK II CH 2 [414 a 14] 644a b / *Sense and the Sensible* CH 5 [445 16-3] 683a b  
9 ARISTOTLE *History of Animals* BK III C 1 19 [520<sup>b</sup> 9-521 14] 45c 46a BK VII C 1 1 [581<sup>b</sup> 25 582 4] 107b c / *Parts of Animals* BK I CH 1 [640 4 7] 162d BK II CH 5 [65 37 18] 176c BK 7 177 179a BK IV CH 2 [0<sup>b</sup>7<sup>b</sup>5 1] 206d 207b / *Ethics* BK II CH 2 [1104 10-26] 349c d BK V CH 1 [1 9 12 5] 376b c CH II [1138 28 32] 386d BK VI 1 12 [1143<sup>b</sup> 214 5] 393b c *passim* / *Rhetoric* BK I CH 5 [1361<sup>b</sup> 3 26] 607a ■ C 1 7 [1363<sup>b</sup> 34 1364 5] 603b  
10 HIPPOCRATES *Ancient Medicine* par 13 19 4c 7b / *Regimen in Acute Diseases* par 9 29d / *Sacred Disease* 156b-c  
10 GLEN *Natural Fertility* BK II CH 8 194c d CH 9 195c 196a  
12 LUCRETII *Nature of Things* BK III [558-565] 37b  
12 AURELIUS *Medications* BK V SECT 8 269d 270b  
13 AUGUSTINE *City of God* BK XIX CH 13 519a 520a BK XXII CH 24 610c 611a / *Christian Doctrine* BK I CH 16 628 d  
20 AQUIN *Summa Theologiae* PART II Q 49 A 2 2b-4a A 3 REP 3 4b ■ A 4 4c 5a 6a Q 50 A 1 A 2 and REP 2 3 6a 7b A 3 REP 2 8b 9a ■ 51 A 1 A 2 12b-13c Q 52 A 1 ANS and REP 3 15d 18a A 2 ANS 18a 19 Q 54 A 1 A 2 22d 23d Q 73 A 2 4 120d 121c A 3 ANS 121c 122b Q 82 A 1 ANS and REP 1 168a d

- 24 RABELAIS *Gargantua and Pantagruel* BK III 137d 139b BK IV 234a 235a 239d 240a  
25 MONTAIGNE *Essays* 233c 236a 368d 369d 370a  
28 HARVEY *Motion of the Heart* 296d 297a / *On Animal Generation* 493a b  
30 BACON *Advancement of Learning* 50c 51d 72b  
32 MILTON *Paradise Lost* BK XI [524-543] 310b 311a / *Arcopagnica* 407b  
36 SIFT *Gulliver* PART IV 155b 156a 170b-171b  
36 STERNE *Tristram Shandy* 412a 417a  
38 ROUSSEAU *Inequality* 336b d / *Political Economy* 368d 369a  
39 SMITH *Wealth of Nations* BK IV 293d 294b  
42 HANT *Physical Elements of Ethics* 368d 369a / *Judgement* 509c d  
51 TOLSTOY *War and Peace* BK X 449b-c  
53 JAMES *Psychology* 799a b  
54 FREUD *General Introduction* 635b-c

5 The theory of disease

5a The nature of disease

- 6 THUCYDIDES *Peloponnesian War* BK II 400b c  
7 PLATO *Lysis* 21d / *Republic* BK IV 354d 355c BK VI 1 409a BK X 435a d / *Timaeus* 472a 474d  
8 ARISTOTLE *Physics* BK VII CH 3 [246<sup>b</sup>10-19] 329 330a  
9 ARISTOTLE *Generation of Animals* BK V CH 4 [784 31 34] 326b d / *Ethics* BK II CH 2 [11 41 9] 349c BK V CH 1 [1129 1 25] 376b c  
10 HIPPOCRATES *Ancient Medicine* par 14 5a-c par 16 5d 6b par 19 6d 7b / *Fractures* par 31 87a / *Sacred Disease* 159b  
10 GLEN *Natural Fertility* BK II C 1 8 193d 194c d CH 9 195c 196a BK III CH III 208b-209b esp 208d  
17 LONNUS *Secundum Ennead* TR IV CH 14 74b d  
20 AQUINAS *Summa Theologiae* PART II Q 71 A 1 REP 3 105d 106c Q 2 A 5 ANS 115a 116b Q 73 A 2 ANS 120d 121c A 3 121c 122b Q 77 A 3 ANS 147c 148b Q 82 A 1 ANS and REP 1 168 d A 4 REP 2 170b-171a Q 98 A 1 ANS 193a 194b PART III SUPPL. Q 81 A 4 RE 4 966d 967d  
25 MONTAIGNE *Essay* 528c 529b  
28 HARVEY *Circulation of the Blood* 305 d  
32 MILTON *Paradise Lost* BK XI [477 543] 09b 311a  
36 SIFT *Gulliver* PART IV 155b-157a  
39 SMITH *Wealth of Nations* BK IV 293d 294b  
51 TOLSTOY *War and Peace* BK IX 372a b  
53 JAMES *Psychology* 799a 807b esp 799a 800a 806 ■ 815a  
54 FREUD *Acquiescence* 403a ■

## 5b The classfication of diseases

- 7 PLATO *Timaeus* 472a-474d  
 8 ARISTOTLE *Topics* bk iv ch 3 [123<sup>b</sup>34 37]  
 172c  
 9 ARISTOTLE *History of Animals* bk viii ch  
 18 7 127b 131b / *Ethics* bk vii ch 11 [1150<sup>b</sup>  
 29 35] 401c d  
 10 HIPPOCRATES *Art. Waters Places* par 3-6  
 9 11a / *Regimen in Acute Diseases* pr i 2  
 26c d / *Ep. dem. cs* bk i sect iii par 49d  
 50a / *I. iur. es f. th* He d pr 4-8 64d 65c /  
*Fract. res* par 31 87a / *Articulation* par 51  
 109 b pr 61 113d 114a / *Aph. ms* sect  
 iii 134a 135b  
 10 GALEN *Natural Faculties* bk ii ch 8 193c  
 194  
 20 AQUINA *Summa Theologiae* p rti ii q 73  
 a 3 121 122b a 7 ans 124d 125c  
 30 HUNTER *Advancement of Learning* 51d 52a  
 36 S. J. GULLIVER *Art. iii* 112b 113a kt  
 iv 155b 157a  
 54 F. EUD. *Hygiene* 87a d 114d / *General Int. o-*  
*d. act* 605b-606d passim p 606 d

## 5c The disease process onset c after effect

- OLD TESTAMENT *Leviticus* 13-14  
 6 THUCYDIDES *Peloponnesian War* bk ii  
 399-400c  
 10 HUNTER *Advancement of Learning* 51d 52a  
 36 S. J. GULLIVER *Art. iii* 112b 113a kt  
 iv 155b 157a  
 54 F. EUD. *Hygiene* 87a d 114d / *General Int. o-*  
*d. act* 605b-606d passim p 606 d  
 10 GALEN *Natural Faculties* bk i ch 14 177c  
 12 LUCRATIUS *Nature of Things* k iii [487  
 505] 36b c bk vi [38 12 4] 95b 96b  
 30 B. CON. *Ad. em. t. of Le. n. g.* 51d 52a  
 37 F. D. C. T. M. J. O. N. S. 86a  
 48 M. V. L. L. E. M. by D. C. 350b 354a  
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7 PLATO *Timaeus* 474b d  
8 ARISTOTLE *Physics* BK VII CH 3 [247-13  
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10 HIPPOCRATES *Sacred Disease* 155d 160d esp  
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12 LUCRETIIUS *Nature of Things* BK III [459-  
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19 AQUINAS *Summa Theologiae* PART I Q 84  
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23 HOBBS *Leviathan* PART I 68c  
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28 HARVEY *On Animal Generation* 347c  
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31 SPINOZA *Ethics* PART IV PROP 39 SCHOL  
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49 D RWIN *Descent of Man* 291a 299c 318b  
51 TOLSTOY *War and Peace* BK XI 524c 527a  
53 JAMES *Psychology* 2b 3a 23b 26b esp 25b  
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54 FREUD *Hysteria* 60d 61a 90d 97b esp 94b-  
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54 FREUD *Origin and Development of Psycho-  
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12 LUCRETIIUS *Nature of Things* BK III [31-93]  
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19 AQUINAS *Summa Theologiae* PART I II Q 38  
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24 R LAIS *Gargantua and Pantagruel* BK III  
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25 MONTAIGNE *Essays* 37c 39a 401b 406a  
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30 BA CON *Idem* *cernis of Learning* 77d 78d  
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48 MELVILLE *Moby Dick* 357b-358b  
51 TOLSTOY *War and Peace* BK XV 614a d  
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- 52 DOSTOEVSKY *Brothers Karamazov* BK II 21d 23c
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- OLD TESTAMENT *Leviticus* 13 14
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- 6 THEOPHRASTUS *Placita* BK II 399b-401b K III 438d
- 7 PLATO *Republic* BK III 335c 336a
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- 10 HIPPOCRATES *Ancient Medicine* part 1 3 1a 2b / *Regimen Acute Diseases* part 1 26a d
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- 12 LUCRETIUS *Nature of Things* BK III [459-525] 36 d BK VI [169-829] 90c 91b [1138-1286] 95b 97a =
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- The general theory of art which underlies the consideration of medicine as an art see ART 3 9a EXPERIENCE 3a KNOWLEDGE 8a
- The theory of signs involved in the interpretation of symptoms see LANGUAGE 10 SIGN AND SYMBOL 4c and for other matters relevant to medical diagnosis and prognosis see HYPOTHESIS 4b 4d
- Another discussion of health and disease see LIFE AND DEATH 5a 5c and for the special problems of mental disease and the methods of psychopathology see EMOTION 3a 3c-3d MAN 5b MEMORY AND IMAGINATION 2c(3)-2c(4) 5c MIND 2c(2) 8a-8c WILL 9b
- Discussions relevant to the comparison of mental health or sanity with happiness see HAPPINESS 2a JUSTICE 1b

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups.

I Works by authors represented in this collection

II Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

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## Chapter 56 MEMORY AND IMAGINATION

### INTRODUCTION

CONCERNING memory and imagination the tradition of western thought seems to be involved in less dispute than it is on other aspects of human and animal life. There are, as we shall see, points of difficulty and debatable theories. But these arise only within the framework of certain fundamental insights which are widely if not universally shared. Here at least we can begin without having to deal with verbal ambiguities. Unlike many of the words which are the traditional bearers of the great ideas, memory and imagination have a constant core of meaning in almost everyone's discourse.

It is understood that memory and imagination depend upon sense perception or upon previous experience. Except for illusions of memory we do not remember objects we have never perceived or events in our own life such as emotions or desires that we have not experienced. The imagination is not limited in the same way by prior experience for we can imagine things we have never perceived and may never be able to.

Yet even when imagination outruns perception it draws upon experience for the materials it uses in its constructions. It is possible to imagine a golden mountain or a purple cow though no such object has ever presented itself to perception. But as Hume suggests the possibility of combining a familiar color and a familiar shape depends upon the availability of the separate images to be combined.

When we think of a golden mountain, Hume writes, we only join two consistent ideas, *gold* and *mountain*, with which we were formerly acquainted. All this creative power of the mind amounts to no more than the faculty of compounding, transposing, augmenting or diminishing the materials afforded us by the senses and experience. A congenitally color

blind man who lived entirely in a world of grays would not be able to imagine a golden mountain or a purple cow though he might be able to imagine things as unreal as these.

Because of their dependence on sense-perception, memory and imagination are usually regarded as belonging to the same general faculty as the external senses. Not all writers, however, conceive of a generic power of sense which they then divide into the exterior senses such as sight, hearing and touch and the interior senses such as memory and imagination. Some like Hobbes treat imagination as nothing but decaying sense and use the word *memory* to express the decay and signify that the sense is fading, old and past.

The image, whether it is a memory image or fancy free, *re-produces* or *re-presents* sensory material. It may be less vivid, less sharp in outline and less definite in detail than the sensation or perception from which it is derived. But in one important respect the image does not differ from the original sense impression. That is the respect in which ideas or concepts do differ from sense impressions—at least according to those who hold that ideas or concepts have a certain universality and abstractness which is not found in sensations and sensory images. Those who like Berkeley and Hume call sensations or images ideas deny the existence of abstract ideas or universal notions precisely because they too agree that sense-impressions or sensory images are always particular in their content and meaning.

THE FUNDAMENTAL controversy about what an idea is and the verbal confusion occasioned by the ambiguity of the word (which appears in the chapter on *IDEA*) do not seem to affect the understanding of the nature of images or their role in the activities of memory and imagination.

tion As William James points out in discussing the blended or generic image which is somehow associated with abstract or universal meaning—a blurred thing is just as particular as a sharp thing and the generic character of either sharp image or blurred image depends on its being felt *with its representative function*. He speaks of this function as the mysterious *plus* the understood meaning—but he denies the possibility of universal or abstract *images* whatever may be the truth about ideas which are not images at all. Certainly those who deny the presence of anything abstract or universal in the understanding do so on the ground that the content of the mind is basically sensory whether the mind is perceiving or remembering imagining or thinking.

The controversy about the nature of the mind does not seem to affect the conception of memory or imagination. As neither is confused with sense perception so neither is confused with rational thought. This remains the case whether the theory of mind looks upon the intellect as a faculty separate from the sensitive faculty (including memory and imagination) or conceives the understanding as a single faculty which is active in judgment and reasoning as well as in perceiving remembering and imagining.

This and related issues are considered in the chapter on MIND. Except for one point perhaps such issues can be ignored here. Sensation is attributed to both animals and men—to all organisms which give evidence of having sense organs or some sort of sensitive apparatus. Whether all animals even those which have the most rudimentary sensorium also have memory and imagination may be disputed—but no one doubts that the higher animals with central nervous systems and brain structures resembling those of men can remember and imagine as well as perceive.

All agree furthermore that memory and imagination require bodily organs though the assignment of these two functions to the brain as their organic seat is more uniformly a tenet of modern than of ancient physiology and can be more clearly expounded as the result of modern researches in neurology. But the question whether the memory or imagination of men and other animals differs more than their bodies

do elicits opposite answers from those who affirm that man alone has reason and those who deny that man has powers of knowing or thinking not possessed by other animals to some degree.

Nevertheless if man alone is considered the nature of memory and imagination is clear. The object remembered or imagined need not be physically present to the senses like the object perceived. The object imagined need not be located in the past like the object remembered nor for that matter need it have any definite location in time and space. It need have no actual existence. It may be a mere possibility unlike the object which cannot be known without being known to exist. As the object of memory is an event which no longer exists so the object of imagination may be something which has never existed and never will.

Thus memory and imagination greatly enlarge the world of human experience. Without them man would live in a confined and narrow present lacking past and future restricted to what happens to be actual out of the almost infinite possibilities of being. Without memory and imagination man could be neither a poet nor an historian and unless he had an angelic sort of intellect which in no way depended on sense experience he would be impeded in all the work of science if memory and imagination did not extend the reach of his senses.

THE PSYCHOLOGICAL analysis of memory usually divides it into a number of separate acts or phases. Recollection presupposes the retention of the material to be recalled. The ingenious experiments of Ebbinghaus that James reports—using the memorization of nonsense syllables to isolate the factors influencing memory—seem to show that retention is affected by the strength of the original associations. But retention is also affected by the interval between the time of learning and the time of revival. The amount of forgetting seems to be a function of two separate factors—the force with which the material to be recalled is originally committed to memory and the lapse of time.

That retention is not the same as recall may be seen from Ebbinghaus' experimental discovery of the fact that forgetting is never com-

plete Material which lies below the threshold of recall is nevertheless retained and manifests its presence by its effect on attempts to reclearn the material which *appears* to have been forgotten

Nothing can be utterly forgotten if as Augustine suggests what seems to be forgotten remains in the memory. He considers the effort men make to remember a forgotten name

Where does that name come back from? he asks except from the memory? For even when it is through being reminded of some thing else that we recognize someone's name it is still by memory that we do it for we do not hold it as some new thing learned but by memory we are sure that this is what the name was. But were the name utterly blotted out of mind Augustine argues we should not remember it even if we were reminded. For if we had utterly forgotten it we should not even be able to think of looking for it

Freud considers forgetting from another point of view. He describes the psychoanalytic method at its inception as a talking cure involving efforts in reminiscence. The things which we have put out of mind he claims are hindered from becoming conscious and forced to remain in the unconscious by some sort of force. He calls this repression. Freud observed that it occurred when a wish had been aroused which was in sharp opposition to the other desires of the individual and was not capable of being reconciled with the ethical aesthetic and personal pretensions of the patient's personality. The end of this inner struggle was the repression of the idea which presented itself to consciousness as the bearer of this irreconcilable wish. This was repressed from consciousness and forgotten.

On this view things which have been put out of mind because we find them unpleasant to contemplate things which are repressed in order to avoid conflict are not forgotten when they cannot be consciously remembered. Nor are they below the threshold of recall in the sense that our retention of them has been so weakened by time that no effort at recollection can revive them. On the contrary they may be capable of quite vivid revival when the emotional obstacles to recollection are removed. Freud applies his theory of the obliviscence of

the disagreeable to such everyday occurrences as the forgetting of familiar names as well as to the repression of memories connected with the emotional traumas of early life

Recollection is distinct not only from retention but also from recognition. The illusion known as *déjà vu* consists in the experience of intense familiarity with a place or scene that so far as one can recall has never been witnessed before. In contrast normal recognition depends upon previous acquaintance with the object being cognized again *i.e.* *re-cognized*. The fact noted by many observers that recognition may or may not be accompanied by recollection of the previous circumstances indicates the separation of recall and recognition as acts of memory. Whereas recollection is remembering through the recall of images recognition consists in remembering at the very moment of perceiving. Both however depend upon what seems to be memory's fundamental act—retention

WITH REGARD TO retention there are two problems which have been the subject of inquiry throughout the whole tradition. The first concerns what is usually called the association of ideas. From Aristotle through Hobbes and Hume to James and Freud there have been various formulations of the laws of association and various interpretations of what such laws signify about the mind. Ebbinghaus for example used nonsense syllables in order to measure the effect upon retention of the associations formed by repetition of a series of sounds. All meaning had been removed in order to avoid the influence upon recollection of associations resulting from meaningful connections of the sort which exists among ordinary words. The repetition of nonsense syllables in pairs or series illustrates association by contiguity or succession. According to most writers the elements of experience become associated through other modes of relation also such as their similarity or contrast with one another in any significant respect

It is not the association itself which is remembered. Rather it is through the association of one part of experience with another that memory seems to work one particular tending to recall others with which it has been asso-

ciated in one or more ways. Recollection seems to occur through activating connections which have been formed and retained. The modern differentiation of controlled and free association indicates two ways in which this can happen—either by a purposeful pursuit of the past or by the apparently chance recall of one thing by another. The ancients make a parallel distinction between reminiscence and reverie. The former is a process in which recollection resembles reasoning in proceeding step by step through a series of related terms; the latter is more like daydreaming or spontaneous fantasy.

The second problem can be stated perhaps as the mystery of retention itself. In describing the capacity of the memory to hold the innumerable things which are not now in mind but can be recalled, the ancients speak of memory as the storehouse of images. Every variety of thing which can be perceived can be stored up in the memory, says Augustine and called up at my pleasure. When I speak of this or that, he goes on, the images of all the things I mention are at hand from the same storehouse of memory, and if the images were not there I could not so much as speak of the things. The things themselves are not brought into the memory; it is only their images which are seized with such marvellous speed and stored away marvellously as if in cabinets, and as marvellously brought forth again when we remember.

The marvel of memory deepens into a mystery when we ask what the metaphor of the storehouse literally means. Where actually are the images when they are not actually in mind? If an image is by its nature an act of consciousness, hereby we apprehend objects not immediately present to our senses, how do images exist outside of consciousness during intervals when they do not function in remembering, imagining, or other acts of knowing? Their return to consciousness seems to imply that they have been retained, but where and how is the problem not solved by the metaphor of things stored away in a capacious barn.

The physical storehouse does not require any fundamental transformation in the being of the things it holds between periods when they are actually in use. The memory does. This problem of the nature and causes of retention Wil-

liam James seems to think can be solved only in terms of the retentive power of nervous tissue—what he calls physiological retentiveness—though in the view of others the problem becomes no easier (and may even be more complicated) when it is transferred from mind to matter. On either view there seems to be no question that changes in the brain are somehow causally connected with the activity of memory and imagination, especially retention and recall. Aquinas for example observes that the imagination and memory may be hindered by a lesion of the corporeal organ, or by lethargy, an observation many times extended by more recent investigations of the brain pathology underlying amnesia and aphasia.

JAMES' TREATMENT of retention as somehow based on pathways traced in the brain with recall the result of a retracing of these paths tends to emphasize the affinity between memory and habit. His theory discussed in the chapter on HABIT, that the plasticity of matter certainly living matter underlies learning or habit formation while the inertia or retentiveness of matter, especially the neural matter of the brain, explains memory or the persistence of habits during periods of disuse, seems almost to identify habit and memory. Ice skating after many years of absence from the sport is as much remembering how to ice skate as reciting a poem committed to memory in youth is the exercise of an old habit.

Not all conceptions of habit and memory permit this fusion of the two—or even their affinity as related aspects of the same phenomenon. Aquinas for example restricts memory to an act of knowledge. The performer popularly called reciting from memory would not be for him an act of memory, though it might involve memory if the recitation were accompanied by knowledge of the time or place and occasion when the poem was first learned. Such knowledge would be a memory, but the recitation itself would not be any more than ice skating. These performances represent the exercise of habits of skill or art.

In view of this Aquinas raises the question whether the act of knowledge of the sort involved in reconsidering a geometric proof

learned at some earlier moment and now recalled to mind is an act of memory. The knowledge of the proof which is retained by the intellect during periods when it is not actually exercised he would call an intellectual habit or habit of knowledge. But should the recollection of this retained knowledge or the activation of this intellectual habit also be called an act of memory? Aquinas answers No on the ground that no reference to the past need be involved in reworking a geometrical problem solved at some earlier time. But if the individual also happens to recall *when* he first solved the problem that is another matter. Even so Aquinas claims that if in the notion of memory we include its object as something past then the memory is not in the intellectual but only in the sensitive part. The intellect is said to remember only in the sense of recalling a truth retained by habit and not in the sense that it understands the past as something here and now.

Memory is considered in still another way in relation to speculative truths about scientific or philosophical matters. The question is one of the origin of such knowledge. In the usual conception of memory as knowledge of past particulars one traditional view found in Aristotle holds that out of sense perception comes to be what we call memory and out of frequently repeated memories of the same thing develops experience—the generalized experience which gives rise to induction and the apprehension of the universal. But in the tradition of the great books we also find a more radical and perhaps less familiar conception of memory as the chief source of knowledge.

This is Plato's doctrine of reminiscence in which all learning is a kind of remembering of knowledge already present in the soul. All teaching takes the form of helping the learner to recollect things he may not be aware he knows by reminding him through a process of questioning which awakens the knowledge already latent in him.

In the *Meno* Meno asks Socrates: What do you mean by saying that we do not learn and that what we call learning is only a process of recollection? Socrates undertakes to show Meno what he means by taking a slave boy who appears not to know the solution of a certain

geometrical problem and merely by questioning him without ever giving him a single answer getting the slave boy to find the right solution for himself. Meno assures Socrates that the slave boy had never been taught geometry. Since the boy was not told the answer he must have always known it and needed only some reminding to remember what he knew. Socrates suggests the explanation that the boy's soul always possessed this knowledge bringing it from another life.

Before he undertook the demonstration with the slave boy Socrates had proposed this hypothesis: The soul being immortal and having been born again many times and having seen all things that exist has knowledge of them all and it is no wonder that it should be able to call to remembrance all that it ever knew about virtue and about everything for as all nature is akin and the soul has learned all things there is no difficulty in her eliciting or as men say learning out of a single recollection all the rest if a man is strenuous and does not faint for all enquiry and all learning is but recollection.

Though he differs from Plato in his conception of the soul and the origin of the knowledge which it innately possesses Augustine seems to hold a similar view. As he examines his own memory it appears to contain much that has not been implanted there by sense experience. Certain things referred to by words he understands he says. I never reached with any sense of my body nor ever discerned them otherwise than in my mind yet in my memory have I laid up not their images but themselves. How they entered into me let them say if they can for I have gone over all the avenues of my flesh but cannot find by which they entered. If the seeds of learning are in the soul at its creation memory can draw from these seminal reasons the full fruit of knowledge.

THE DOCTRINE OF REMINISCENCE changes the meaning of both learning and memory at the same time. When learning consists in remembering knowledge not acquired in this life then the activity of memory cannot be as it is usually conceived a recollection of knowledge previously acquired in this life by learning. In order to understand a doctrine in which famil



lar meanings are so profoundly altered it is perhaps necessary to understand the problem it tries to solve

That problem exists only for those who make an absolute distinction between particular sensory images and universal ideas or abstract concepts. Those who like Hobbes Berkeley or Hume deny universals or abstractions as any part of the mind's content see no special problem in the origin of that part of the mind's content which is not received as sense impressions. The original impressions are somehow externally caused and all the rest of the mind's content—its images and memories and all constructions of the sort Locke calls complex ideas—then arise by natural derivation from the original sense impressions.

But those who on the contrary maintain that ideas or concepts are *not* images of any sort cannot avoid the problem of how the mind comes by its ideas. One solution of this problem attributes existence to ideas as intelligible objects and attributes to the mind the power to apprehend them by direct intuition just as the senses directly apprehend sensible objects. But if ideas whether or not they exist outside the mind cannot be apprehended intuitively then what is the origin of the ideas whereby the mind understands intelligible objects?

To this question the doctrine of reminiscence is one answer. Another answer is the doctrine of abstraction as formulated by Aristotle and Aquinas. Locke and James also seem to recognize a distinction in kind between abstractions and other mental content but they do not appear to find any need for a special power to perform the act of abstracting general ideas or universal concepts from the sensory particulars of perception and imagination. Aquinas however thinks that a special faculty called the *active intellect* must be postulated to account for the mind's possession of the ideas or concepts whereby it actually understands what it cannot perceive or imagine.

THESE THEORIES are considered in the chapters on *IDEA* and *MIND*. But just as the doctrine of reminiscence is relevant here for its bearing on the discussion of memory so the doctrine of abstraction which posits an active intellect is relevant to the discussion of imagination.

Imagination writes Aristotle is different from either perceiving or discursive thinking though it is not found apart from sensation or judgment without it. That this activity is not the same kind of thinking as judgment is obvious. For imagining lies within our own power whenever we wish (e.g. we can call up a picture as in the practice of mnemonics by the use of mental images) but in forming opinions we are not free we cannot escape the alternatives of falsehood or truth.

The point is not that images cannot be false. They frequently are as (according to Aristotle) sensations never are. But the falsity of our imaginations involves a judgment that things really are as we imagine them to be. If imagination is not accompanied by judgment the question of truth or falsity does not arise for in pure imagination we are not concerned with the way things actually exist but with the possible *or* the imaginary rather than the real. Everyone knows the difference says James between imagining a thing and believing in its existence.

Concerning imagination as an activity depending upon the prior activity of the senses Aristotle holds that imagination is incapable of existing apart from sensation. In this he does not differ from other psychologists. But he also holds that rational thought which for him is quite distinct from imagination cannot exist apart from imagination. "To the thinking soul images serve as if they were the contents of perception. That is the why the soul never thinks without an image."

Aristotle is here saying more than that a special faculty of mind or intellect abstracts the universal form—or what Aquinas calls the intelligible species—from the sensory matter of the image or what Aquinas calls the phantasm. Aristotle is, in addition, insisting that the act of understanding is always accompanied by imaginative activity. The kind of thinking which depends upon the abstraction of ideas from imagery also depends upon the presence of images when the thinking takes place. The faculty of thinking says Aristotle thinks the forms in the images or as Aquinas expresses it "for the intellect to understand actually not only when it acquires new knowledge but also when it uses knowledge already acquired there is need for the act of imagination. It must of

necessity turn to the phantasms in order to perceive the universal nature existing in the individual. The cooperation of the imagination with the intellect is shown, furthermore, by the fact that when the act of imagination is hindered by a lesion of the corporeal organ, we see that a man is hindered from understanding actually even those things of which he had a previous knowledge.

Augustine on the contrary refers to things which we know within ourselves without images. When we consider numbers for example it is not their images which are in [our] memory but themselves. The question of imageless thought—of thinking abstractly without the use of images—seems to be peculiarly insistent in sciences like mathematics, metaphysics and theology in which the conceivable may not be imaginable. The objects peculiar to these sciences seem to require the scientist to do without imagery or as Aquinas says to rise above his imagination.

This may be true even in physics. Atoms according to Lucretius are conceivable but they are no more imaginable than they are perceptible. If we need images to think of them we must use imagery in a metaphorical way, picturing the atom as the smallest particle imaginable—only more so! To the objection that there must be imageless thought if we can think of incorporeal beings of which there can be no images or phantasms, Aquinas replies that we do so by comparison with sensible bodies of which there are phantasms.

ARISTOTLE'S THEORY that the operations of thinking are always dependent on (though not reducible to) acts of imagination does not imply that imagination is always accompanied by abstract or rational thought. Normally human thinking and knowing is a work which combines both sense and intellect, both reason and imagination, but sometimes even in man imagination may be active without judgment or reasoning. Brute animals, according to Aristotle, are largely guided by their imaginations because of the non-existence in them of mind. But when imagination takes the place of thought in men it is because of the temporary eclipse of their minds by passion or disease or sleep.

Dreaming seems to be the striking case of imagination divorced from reason's judgment or control. It has long been suspected that animals also dream, but the question whether they can distinguish their dreams from their waking perceptions may prove forever unanswerable. Philosophers and psychologists have, however, asked themselves whether there is any way of being certain of the difference between waking thought and the phantasmagoria of dreams.

Descartes for example asks: 'How do we know that the thoughts that come in dreams are more false than those that we have when we are awake, seeing that often enough the former are not less lively and vivid than the latter?' It seems to him that there are no certain indications by which we may clearly distinguish wakefulness from sleep. Even as he writes these words he can almost persuade himself that he is dreaming. Yet he does find one probable sign whereby to tell dreaming from waking. Our memory, he observes, can never connect our dreams with one another or with the whole course of our lives as it unites events which happen to us while we are awake.

Aquinas finds other evidences of the difference. When a man is fully asleep he does not dream at all for his imagination is inactive as well as his senses and his mind. But as sleep passes gradually into waking, his faculties begin to act again, not merely the imagination but the reason also, so that a man may judge that what he sees is a dream, discerning as it were between things and their images. Nevertheless the common sense remains partly suspended and therefore, although it discriminates some images from reality, yet it is always deceived in some particular. Even while a man is asleep, his sense and imagination may be to some extent free, and similarly the judgment of his intellect may be unfettered though not entirely. Consequently if a man syllogizes while asleep when he wakes up he invariably recognizes a flaw in some respect.

APART FROM QUESTIONS of truth and falsity or reality and illusion, the nature and causes of dreaming are perennial themes in the tradition of western thought. As different suppositions are made concerning the cause of dreams, so different interpretations are given of their content.

When it is supposed that the dream is inspired by the gods or is a divine visitation it becomes a medium of divination or prophecy—a way of foretelling the future or of knowing what the gods intend in general or for the guidance of some particular man. In the great books of ancient poetry and history and in the Old Testament as well dreams like oracles are interpreted as supernatural portents and figure as one of the major sources of prophecy. Aristotle discounts both the fulfillment of dreams and their non fulfillment for coincidences do not occur according to any universal or general law. Regarding prophetic dreams as mere coincidences he does not find it surprising that many dreams have no fulfillment. From the fact that certain of the lower animals also dream he thinks it may be concluded that dreams are not sent by God nor are they designed for the purpose of revealing the future.

Instead Aristotle proposes natural causes for the origin of dreams. Slight stimulations of the sense organs awaken the dream process and determine its content. Dreamers fancy that they are affected by thunder and lightning when in fact there are only faint ringings in their ears or that they are walking through fire and feeling intense heat when there is only a slight warmth affecting certain parts of the body. Lucretius similarly explains dreams by natural causes but attributes their content to events which have dominated the thought of waking life.

On whatever things we have before spent much time he writes so that the mind was more strained in the task than is its wont. In our sleep we seem mostly to traffic in the same things. Lawyers think that they plead their cases and confront law with law, generals that they fight and engage in battles, sailors that they pass a life of conflict waged with winds. This is true even of animals. Strong horses when their limbs are laid to rest, Lucretius continues, yet sweat in their sleep and pant forever and strain every nerve as though for victory.

And hunters' dogs often in their soft sleep yet suddenly toss their legs and all at once give tongue and again and again sniff the air with their nostrils as if they had found and were following the tracks of wild beasts.

IN THE TRADITION of the great books modern writers like their ancient forebears appeal thus to sensation and memory as the natural causes of the origin and content of dreams. But except for daydreams or waking fantasy they do not observe that dreaming may be even more profoundly a product of desire. If Freud's extraordinary insight on this point is supported by all the evidences he assembles in his great work *The Interpretation of Dreams* then the lateness of this discovery may be thought even more extraordinary than the theory itself.

The theory is not simply that the content of dreams is determined by desires. When Oedipus tells Jocasta of his fear that in taking her to wife he has unwittingly married his mother she tells him to fear not for many men ere now have so feared in dreams also. If that is so then such dreams do not call for the interpretation which Freud gives. If there are men who suffer from what Freud calls the Oedipus complex involving repressed incestuous desires then the expression of those desires in dreaming will not take the form of imagining them to be actually fulfilled.

On the contrary Freud's theory of dream symbolism holds that the dream as remembered is not the real thing at all but a distorted substitute. Beneath what he calls the manifest dream content—the actual moving images which occupy the dreaming consciousness—the latent dream thoughts which are distorted in the actual dream. This distortion is due to the activities of censorship directed against the unacceptable unconscious wish impulses—invariably of an objectionable nature offensive from the ethical, aesthetic or social point of view—things about which we do not dare to think at all or think of only with abhorrence. The repressed desires or wishes, the loves or fears which the dreamer refuses to acknowledge consciously must therefore appear in dreams in a disguised form. The imagery of dreams seems to Freud to be a kind of language in which the repressed materials of thought and feeling employ a special symbolism to express what the moral censor will not permit us to express in the ordinary language of our conscious thought or social conversation.

As ordinary language contains symbols conventionally agreed upon so Freud finds that

the recurrence again and again of certain images in the dreams of neurotic patients and of normal persons as well gives them the character of conventional symbols. The number of things which are represented symbolically in dreams is according to Freud not great. They are, he says, the human body as a whole, parents, children, brothers and sisters, birth, death, nakedness—and one thing more. The only typical that is to say regularly occurring representation of the human form as a whole is that of a *house*. When the walls are quite smooth the house means a man; when there are ledges and balconies which can be caught hold of, a woman. Parents appear in dreams as *emperor* and *empress*, *king* and *queen*, or other exalted personages. Children and brothers are less tenderly treated, being symbolized by little *animals* or *vermin*. Birth is almost invariably represented by some reference to *water*.

For dying we have setting out upon a *journey* or *travelling* by train. *Clothes* and *uniforms* stand for nakedness. The one thing

more which Freud mentions in his enumeration comprises the sexual organs and acts. In contrast to all the others these he says are represented by a remarkably rich symbolism.

An overwhelming majority of symbols in dreams are sexual symbols.

Freud points out why it would be a mistake to treat dream symbols like the words of an ordinary language. Their object is not to tell anyone anything; they are not a means of communication; on the contrary, it is important to them not to be understood. Wresting their secret from such symbols is a remarkable achievement. Aristotle's remark, which Freud quotes, that the most skilful interpreter of dreams is he who has the faculty of observing resemblances, seems to be born out in the Freudian method of discovering the latent content of the dream symbolism. But Freud's therapeutic use of what can thus be discovered makes the psychoanalytic method a thing totally unanticipated by any of his predecessors.

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passage referred to. For example in 4 Homer *Iliad* BK II [265-283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left-hand side of the page the letters c and d to the upper and lower halves of the right-hand side of the page. For example in 7 PLATO *Symposium* 163b-164c the passage begins in the lower half of the left-hand side of page 163 and ends in the upper half of the right-hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. 11d *Iliad* BK II [265-283] 12d.

**BIBL. REFERENCES.** The references to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) *II Esdras* 7 46.

**SYMBOLS.** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference p.s.m. signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Index* consult the Preface.

# 1 The faculties of memory and imagination in brutes and men

7 PLATO *Theaetetus* 538d 541a / *Phaedrus* 621a b

8 ARISTOTLE *Memory and Reminiscence* CH I 690 692b n 12 [453 5-14] 695b

9 ARISTOTLE *Ethics* BK VII CH 3 [1147<sup>b</sup> 3-6] 397d

10 GALEN *Natural Faculties* BK I CH 12 173a b

17 PLOTINUS *Fourth Ennead* TR I CH 25 31 154d 158c TR V CH I 17 159a 166d passim

TR VI CH 3 190b 191c

11 ALUJIN *Confessions* BK X par 2 36 74b 80d

12 AQUINAS *Summa Theologiae* PART I Q 78 A 4 411d 413d

13 AQUINAS *Summa Theologiae* PART II Q 51 A 3 14b 15

23 HOBBS *Leviathan* PART I 49a 54c p 50a d PART IV 258b c 267b

25 MONTIGNY *Essays* 229d 230b

30 BAON *Advertisement of Levi* g 32d 55a d

31 D'ESCARTE *Rules* XII 19d 20d / *Discourse* ART I 41d / *Method* s VI 96b-97a 98d 99 / *Objections and Replies* DEF II 130a b 208d 209a 209b c

31 S. INOZ *Ethics* PART II PRO 17 SCHOL 381b d PROP 18 CHO 382 b

35 LOCKE *Human Understanding* BK II CH X 141b 143d esp CT I 143 d

38 ROUSSEAU *I* quality 341d 342a

42 HANT *Pur Reason* 41c-42b 54b 55a 58 II 194d 195a / *Judgement* 542b 543c

49 D'ARIN *Description of Man* 291d 292b 412d 480c 481b

53 JAMES *Psychology* 1a 2b 396a 413a 418a b 421a 433a esp 424b-427 484a 501b

54 FREUD *Interpretation of Dreams* 352a d / *General Introduction* 527a

## 1a The relation of memory and imagination to the use of the a priori grounds of possible experience in the synthesis of intuition in production and recognition

7 PLATO *Theaetetus* 523d 524a 538d 541a / *Phaedrus* 621a b

8 ARISTOTLE *Posterior Analytics* X II CH 9 [99<sup>b</sup> 36-1 96] 136b c / *Metaphysics* BK I CH I [98<sup>a</sup> 28<sup>b</sup> 4] 499 b / *Sophistical Refutations* BK I CH 3 [4 8 16] 660b [4 8<sup>b</sup> 0-429<sup>a</sup>] 660d 661b / *Memory and Reminiscence* CH I 690a 692b

9 ARISTOTLE *Motion of Animals* II 7 [70<sup>b</sup> 13]-CH 8 [702<sup>a</sup> 1] 237a / *Rhetoric* III CH [1370<sup>a</sup> 28-31] 613c

17 PLOTINUS *Fifth Ennead* TR III CH 29 157b d TR IV CH 8 161d 162b TR VI 189b 191c

### 3. Remembering as an act of knowledge and as a source of knowledge

- 3a. Remembrance as the process of all learning: ideas or sensual reasons
- 3b. Sensitive and intellectual memory: knowledge of the past and the basis of knowledge
- 3c. The scientist's use of memory: collated memories as the source of generalized experience
- 3d. Memory as the muse of poetry and history: the dependence of history on the memory of men

### 4. The contribution of memory: the building of time

- 4a. Memory in the life of the individual: personal identity and consciousness
- 4b. Memory in the life of the group or race: instinct, legend, and tradition

### 5. The activity of imagination, fancy or fantasy: the nature and variety of images

- 5a. The distinction between reproductive and creative imagination: the reproductive image and the imaginative construct
- 5b. The image distinguished from the idea or concept: the concrete and particular as contrasted with the abstract and universal
- 5c. The pathology of imagination: hallucinations, dreams, and imagery

### 6. The role of imagination in thought and knowledge

- 6a. Imagination as knowledge: its relation to possible and actual experience
- 6b. The effect of intellect on human imagination: the imaginative thinking of animals
- 6c. The dependence of rational thought and knowledge on imagination
  - (1) The abstraction of ideas from images: the image as a condition of thought
  - (2) The schema of the imagination as mediating between concepts of the understanding and the sensory manifold of intuition: the transcendental unity of apperception
- 6d. The limits of imagination: senseless thought: the necessity of going beyond imagination in the speculative sciences

### 7. Imagination and the fine arts

- 7a. The use of imagination in the production and appreciation of works of art
- 7b. The function and measure in poetry: the probable and the possible in poetry and history

### 8. The nature and causes of dreaming

- 8a. Dreams as dreams: toward their problem: proper discussion through the medium of dreams
- 8b. The role of sensation and memory in the dreams of sleep
- 8c. The experience of desire in daydreaming or fantasy
- 8d. The symbolism of dreams
  - (1) The material and latent content of dreams: the dream-work
  - (2) The recurrent use of specific symbols in dreams: the dream-language
- 8e. Dream-analysis as a way of reaching the repressed unconscious

- 12 AURELIUS *Meditationes* bk iv sect 7 292b  
 13 VIRGIL *Aeneid* bk i [19-20] 108a b [44-49] 115a 116b bk ii [1-2] 124a  
 17 PLOTINUS *Enneads* tr iii ch 28 156d 157b  
 18 AUGUSTINE *Confessions* bk viii par 25 27  
 [1-2] c bk x par 30 29b-c  
 19 AQUINAS *Summa Theologiae* PART I Q 81  
 A 3 REP 2 430c-431d PART II Q 1 A 2 REP  
 3 609b-610b Q 17 A 7 690d 692a Q 3 A 3  
 760d 761c  
 20 AQUINAS *Summa Theologiae* PART III Q 13  
 A 3 REP 3 782b-783b  
 21 HOBBS *Leviathan* PART I 51a b  
 22 MONTAIGNE *Essays* 36c-40a 236b-d 316b-c  
 27 SHAKESPEARE *Othello* ACT III SC III [32-40] 225c 227b / *Macbeth* ACT I SC VII [1-28] 239b-c ACT III SC I [33-61] 290d 291a  
 ACT III SC II [3-36] 296c d SC IV [38 108] 298a d  
 28 CERVANTES *Don Quixote* PART I 57c 58d  
 PART II 285a 288c esp 286c 287b  
 30 BACON *Advancement of Learning* 55b d  
 67a b  
 31 DESCARTES *Rules* XII 19d 20a  
 31 SPINOZA *Ethica* PART III PROP 12-57 400b-415b PASSIM PART IV PROP 9-13 426d-428a  
 PART V PROP 34 DEMONSTR 460c d  
 32 LOCKE *Human Understanding* bk ii ch  
 XXIII 248b-251d PASSIM esp SECT 7 15  
 249b-250c  
 36 STERN *Tristram Shandy* 194a  
 38 ROUSSEAU *Inequality* 341d 345d 346b  
 51 TOLSTOY *War and Peace* bk v 210b-c  
 53 JAMES *Psychology* 13a 15a 704b-705a 759a  
 760a 767b 792b esp 767b-768a 771a, 773a b  
 [5a-1] 792b  
 54 FREUD *Interpretation of Dreams* 353b 363b  
 364d esp 363d 364a 377c 378d
- 2 The activity of memory
- 7 PLATO *Theaetetus* 538d 541a  
 8 ARISTOTLE *Topics* bk iv ch 5 [125<sup>b</sup> 15 19]  
 174d / *Memory and Reminiscence* 690a 695d  
 17 PLOTINUS *Enneads* tr iii c 1 25 31  
 154d 138c PASSIM tr iv ch 1 7 159a 166d  
 PASSIM tr vi ch 3 190b-191c  
 18 AUGUSTINE *Confessions* bk x par 12 36  
 74b-80d  
 21 HOBBS *Leviathan* PART I 53a-c  
 31 S PINOZA *Ethica* PART II PROP 18 SCHOL  
 382a b PART V PROP 11 13 456a b  
 35 LOCKE *Human Understanding* bk ii ch x  
 141b-143d c XIX SECT 1 175b-c  
 53 JAMES *Psychology* 1b-2b 421a-451b  
 54 FREUD *Interpretation of Dreams* 352a-c /  
 General Introduction 527a b
- 2 Retention factors influencing its strength
- 7 PLATO *Phaedrus* 138d 139a / *Gorgias* 262a  
 / *Republic* bk vii 399c / *Timaeus* 446b-c  
 / *Theaetetus* 540d 541a  
 8 ARISTOTLE *Memory and Reminiscence* ch 1  
 [119<sup>b</sup> 3-9] 690a [150<sup>a</sup> 6-12] 691a c  
 17 PLOTINUS *Enneads* tr iii ch 29  
 157c d tr iv ch 8 161d 162b tr vi ch 3  
 190b 191c  
 18 AUGUSTINE *Confessions* bk x par 11 14  
 74b 75a par 16 75b-c par 20 27 6b 78c  
 20 AQUINAS *Summa Theologiae* PART II Q 50  
 A 3 REP 3 8b 9a Q 51 A 3 14b 15a  
 23 HOBBS *Leviathan* PART I 53a  
 23 MONTAIGNE *Essays* 236c  
 30 BACON *Advancement of Learning* 61d 62c /  
*Novum Organum* bk ii APH 26 156a 157a  
 31 DESCARTES *Meditationes* II 81d / *Objections*  
 and *Replies* 208d 209a  
 35 LOCKE *Human Understanding* bk ii ch x  
 SECT 3-6 141c-142c ch XXIX SECT 3 234b-c  
 36 STERN *Tristram Shandy* 234b 236b  
 53 JAMES *Psychology* 1b-2a 277a 421b-424a  
 PASSIM esp 422a 424a 427b-441a esp 428b  
 448b-450a 449a b  
 54 FREUD *Hysteria* 27a 28c / *Interpretation of*  
*Dreams* 145b 155a 157a esp 155c 369a b /  
*Civilization and Its Discontents* 769a 770c
- 2b Recollection: factors affecting ease and adequacy of recall
- 7 PLATO *Symposium* 165c 166b / *Timaeus*  
 446b-c / *Phaedrus* 621a-c  
 8 ARISTOTLE *Topics* bk viii ch 14 [163<sup>b</sup> 17-34]  
 222b c / *Memory and Reminiscence* ch 1  
 [149<sup>b</sup> 3-9] 690a ch 2 692b 695d  
 9 ARISTOTLE *Rhetoric* bk iii ch 9 [1409 35-48]  
 660d 661a  
 18 AUGUSTINE *Confessions* bk x par 12 14 74b  
 75a par 16 75b 76a par 25 36 77c 80d  
 23 HOBBS *Leviathan* PART I 53b-c  
 30 BACON *Advancement of Learning* 59a b  
 62b-c / *Novum Organum* bk i APH 26 156a  
 157a  
 31 DESCARTES *Objections and Replies* 208d 209a  
 31 S PINOZA *Ethica* PART V PROP 11 13 456a b  
 35 LOCKE *Human Understanding* bk ii ch  
 SECT 21 118b-119a bk ii ch x SECT 2 141b-c  
 SECT 7 142c d  
 51 TOLSTOY *War and Peace* bk x 422b  
 53 JAMES *Psychology* 1b 2b 163a b 362b 364a  
 371a 372a 382a 385b esp 382b 383a 423a  
 424a 427b-431b esp 428a b 433a 434a  
 438a-440b  
 54 FREUD *Hysteria* 32c 33d / *Interpretation of*  
*Dreams* 150b-157a 353d 354a / *Unconscious* 1  
 438b-d / *General Introduction* 485a-486a  
 488c-489c 566c 567b / *Ego and Id* 697d  
 698d 700b-c
- 2c The association of ideas controlled and free as occasion reminds and reflects
- 7 PLATO *Republic* II c bk v 361a  
 8 ARISTOTLE *Memory and Reminiscence* ch 2  
 [157<sup>b</sup> 10-15] 3 [693a-695d]



(2) *The activity of memory* 2c *The association of ideas controlled and free association remembrance and re-er*

- 23 HOBBS *Leviathan* PART I 52b 53b 67d 69b
- 26 SHAKESPEARE *Richard II* ACT V SC V [1 41] 349d 350a
- 29 CERVANTES *Don Quixote* PART I 1a 3b 18d 19b 50b 52d 134b 135d
- 31 DESCARTES *Objections and Replies* 143a c
- 31 SPINOZA *Ethics* PART II PRO 18 381d 382b PART III PROP 14 17 400d 402a
- 35 LOCKE *Human Understanding* BK II CH XXXIII 248b 251d
- 35 BERKELEY *Human Knowledge* SECT 30 418c
- 35 HUME *Human Understanding* SECT III 457c 458a SECT V DIV 41 45 467d 469c passim
- 36 STERNE *Tristram Shandy* 193a 194b 319a 320b 393a 394a
- 42 KANT *Pure Reason* 51c d / *Judgement* 493c d 528c 529b
- 49 DARWIN *Descent of Man* 292d 293a
- 51 TOLSTOY *War and Peace* BK II 82a d BK III 125b c 146d 148c K VI 254a BK VII 293c 295a BK X 394d 422b c 443c 444a 464a-465c esp 464d-465a BK XIV 608c d BK XV 615a 616a
- 53 JAMES *Psychology* 360a 395a esp 370a 385b 667a 678b passim 827a 83 a
- 54 FREUD *Hysteria* 65a 67b esp 66c-67b 74a 79d esp 74a 77b / *Interpretation of Dreams* 180b 181b 253d 254a 347b 350 esp 348a 349 352b c 375b 376a / *Repression* 423c d / *General Introduction* 486b 489c esp 486d 488a

2d *Recognition with or without recall*

- 7 PLATO *Theaetetus* 538d 541a
- 18 AUGUSTINE *Confessions* BK X par 27 28 78b d
- 35 LOCKE *Human Understanding* BK I CH III SECT 21 118b 119a BK II CH X SECT 2 1411 c SECT 7 142c d
- 53 JAMES *Psychology* 163b 384 440b-441a esp 441b-442b [fn 2]
- 54 FREUD *Hysteria* 33c 79a d passim

2e *The scope and range of normal memory failure or defect of memory and its causes*

- 4 HOMER *Odyssey* BK IX [82 104] 230
- 7 PLATO *Phaedrus* 138c 141a c / *Philebus* 621a b
- 8 ARISTOTLE *Memory and Remembrance* CH I [45 26-451 19] 691 692b
- 12 LUCRETIUS *Nature of Things* BK III [830-860] 40c-41
- 17 PLOTINUS *Fourth Ennead* TR III CH 29 157c d
- 18 AUGUSTINE *Confessions* BK X par 12 36 74b-80d
- 21 DANTE *Divine Comedy* PURGATORY XXXI [91 111] 101d 102a XXXIII [79-102] 105 b

PARADISE I [1 12] 106a XXXIII [16-7] 156c 157a

- 25 MONTAIGNE *Essays* 15a 16c 236c d 316a 317a 465c 466c
- 35 LOCKE *Human Understanding* BK II CH X SECT 4 5 141d 142b CH XXIX SECT 3 234b c BK III CH III SECT 2 254d 255a
- 36 STERNE *Tristram Shandy* 234b 236b
- 40 GIBBON *Decline and Fall* 88d
- 51 TOLSTOY *War and Peace* BK III 129d 130b
- 53 JAMES *Psychology* 131a 179a b 216a b 240a 258b 443a 450a 841b 842a 844b
- 54 FREUD *Interpretation of Dreams* 155 156a 341b 345b passim / *General Introduction* 453b 456a esp 454b 455b 526d 527c 561c 562b

2e(1) *Forgetting as a function of the time elapsed*

- 18 AUGUSTINE *Confessions* BK X par 18 75d 76a
- 20 AQUINAS *Summa Theologiae* PART III SUPPL Q 98 A 7 REP 3 1076d 1077b
- 23 HOMER *Leviathan* PART I 50b c
- 25 MONTAIGNE *Essays* 404
- 26 SHAKESPEARE *Henry V* ACT IV SC III [40-67] 556a b
- 35 LOCKE *Human Understanding* BK II CH X SECT 5 142a b
- 51 TOLSTOY *War and Peace* BK X 422b c
- 53 JAMES *Psychology* 438a b

2e(2) *The obliviscence of the disagreeable conflict and repression*

- 25 MONTAIGNE *Essays* 177d 180b esp 180a b 236b d
- 49 DARWIN *Descent of Man* 312b
- 51 TOLSTOY *War and Peace* BK V 200c d BK IX 355d 356a BK XIV 605c d BK X 616a 617 630b c
- 54 FREUD *Origin and Development of Psychoanalysis* 8b 13a b / *Hysteria* 65b 66a 82b d / *Interpretation of Dreams* 343c 345a esp 344d 345a 346d 347a 378b 380d esp 378b 379 / *Repression* 422d-425b / *General Introduction* 464b-467a 472c-475a esp 474a 566a 567a 579d / *Inhibitions Symptoms and Anxiety* 720a d 732b c / *New Introductory Lectures* 811a b

2e(3) *Organic lesions amnesia and the aphasias*

- 8 ARISTOTLE *Memory and Remembrance* CH I [45 26-12] 691a c CH II [153<sup>1</sup> 11] 695d
- 19 AQUINAS *Summa Theologiae* PART I Q 84 A 7 449b 450b
- 35 LOCKE *Human Understanding* BK II CH X SECT 5 142b
- 49 DARWIN *Descent of Man* 299c
- 53 JAMES *Psychology* 25b 26b 32a 34a 35b 37b 241b 258b esp 251b 252a 258a b 447a 448a 490a-493a passim
- 54 FREUD *Conclusion and Its Discontents* 7

## 2 (4) False memories illusions of memory dējā ru

8 ARISTOTLE *Memory and Reminiscence* CH I  
[451 8-12] 692a

51 TOLSTOY *War and Peace* bk vii 293c 295a  
bk x 393a b

■ JAMES *Psychology* 241a b 442a

54 FREUD *General Introduction* 597b 599b esp  
597b d

Remembering is an act of knowledge and  
is a source of knowledge

7 PLATO *Phaedrus* 124c 126c / *Meno* 179d  
183a / *Phaedo* 228a 230d / *Republic* bk vi  
374d 375a

8 ARISTOTLE *Prior Analytics* bk ii ch 19  
[99<sup>3</sup> 34 10<sup>9</sup>] 136b-c / *Topica* bk ii ch 4  
[111<sup>2</sup> 24 31] 156d 157 / *Metaphysics* bk i ch 1  
[980 28-281 i] 499a b / *Memory and Reminiscence* ch i 690 692b

17 PLOTINUS *Fourth Ennead* tr iii ch 25-31  
154d 158c passim tr iv ch 1-17 159a 166d  
passim tr vi ch 3 190b 191c

18 AUGUSTINE *Confessions* bk x par 2 36  
74b 80d / *Christian Doctrine* bk ii ch 9  
640c d ch 14 643b bk iv ch 5 677b c

■ AQUINAS *Summa Theologiae* PART I Q 78  
A 4 ANS and REP 5 411d-413d Q 79 AA 6 7  
419b 421c Q 84 A 3 R 3 443d-444d Q 89  
A 6 REP 1 478b d

■ AQUINAS *Summa Theologiae* PART III SUPPL.  
Q 7 A 2 REP 4 895 897d

21 DANTE *Divine Comedy* PARADISE v [34-  
42] 112c

23 HOBBES *Leviathan* PART I 53a d

30 BA CON *Adamic* of *Leviathan* g 32d 61d  
62c

31 DESCARTES *Rules* III 4d VII 10b c VI  
14b XI 17b-18b x 18c 19d 20d / *Dis-  
course* AT 41d / *Meditations* v 95d /  
*Objections and Replies* 125a ■

33 PASCAL *Pensées* 369 236b

35 LOCKE *Human Understanding* d g bk i ch iii  
SECT 118b 119a bk i ch x SECT 2141b  
c CT 8 142d 143a bk iv ch i SECT 8-9  
308b 309b

46 HEGEL *Philosophy of Right* PART I pa 69  
30b c

53 JESSE *Psychology* 145 396a 397 424b-  
427a 450a-451b

54 FREUD *Uncertainty* 428d / *General Introduction*  
d 48c ■ 484c-486a esp 485a ■

3a Remembering is the processes of all learn-  
ing innate ideas or seminal reasons

7 PLATO *Phaedrus* 124c 126 / *Meno* 179d  
183 188d 189 / *Phaedo* 228 230d /  
*Theaetetus* 151d 517b

8 ARISTOTLE *Posterior Analytics* bk ii ch 19  
[99<sup>3</sup> 0-33] 136a b / *Metaphysics* bk i c 9  
[992<sup>3</sup> 24-913 i] 511 c / *Memory and Reminiscence* ch 2 [451 19-452 3] 692b 693d

10 GALEN *Natural Faculties* bk i ■ 112 173a b

12 EPICTETUS *Discourses* bk ii ch ii 150a c

17 PLOTINUS *First Ennead* tr ii ch 4 8b-c  
/ *Fourth Ennead* tr iii ch 25 26 154d 156c  
tr iv ch 5 160d 161b

18 AUGUSTINE *Confessions* bk x par 10 73d  
74a par 16-19 75b 76b par 26-38 78a 81a /  
*City of God* bk viii ch 6 269b c / *Christian  
Doctrine* bk i ch 9 627a

19 AQUINAS *Summa Theologiae* PART I Q 54  
A 4 ANS and REP 1 287b 288a Q 55 A 2 289d  
290d Q 57 A 1 REP 3 295a d Q 58 A 1  
300c 301a Q 60 A 2 ANS 311a d Q 84 A 3  
443d-444d A 4 ANS 444d-446b A ■ ANS  
447c-449a Q 89 A 1 REP 3 473b 475a Q 117  
A 1 ANS and REP 4 595d 597c

25 MONTAIGNE *Essays* 264b 265b

28 ■ RUSSEY *On Animal Generation* 333d 334d

30 BACON *Advancement of Learning* 1b ■

31 DESCARTES *Rules* iv 5 d 6d vi 8d 9a  
viii 13c d / *Discourse* PART V 54c PART V  
62a / *Meditations* ii 77d 81d passim iii  
83b 88c d / *Objections and Replies* 120c d  
140 215b c 224b d 225a

31 SPIROU *Ethics* PART V PROP 23 SCHOL  
458c d

35 LOCKE *Human Understanding* d g 90d 91b bk  
i 95b d 121a c passim esp ch i SECT 15 16  
98d 99c SECT 23 101b 102a ch iii SECT 21  
118b 119a bk ii ch i SECT 121a b SECT 6  
122b c ■ ix SECT 6 139a

35 HUME *Human Understanding* SECT II DIV  
17 457b d [fn i]

42 KANT *Practical Reason* 113b 115a / *Practical  
Reason* 352c 353a

53 JAMES *Psychology* 851a 862a esp 851a 852b  
856 860a 867 868a 879b 880 889a b  
897a b

3b Sensitive and intellectual memory knowl-  
edge of the past and the habit of knowl-  
edge

7 PLATO *Theaetetus* 538d 544a

8 A TOTLE *Topics* bk ii ch 4 [11<sup>1</sup> b 4 31]  
156d 157a bk iv ch 4 [1<sup>1</sup> 5<sup>1</sup> b 4] 174c  
bk vi ■ 2 [57<sup>1</sup> b 16] 214a / *Sophist* bk  
ch 5 [43 20 25] 662d / *Memory and Reminiscence*  
ch i [451 19<sup>1</sup> b] 692b d

17 PLOTINUS *First Ennead* tr iii ch 5 3  
154d 158 passim

18 AUGUSTINE *Confessions* bk x par 16-19  
75b 76b par 23 277a d p 30 79b c par  
36 80c d / *City of God* bk xiv ch 3 618a

19 AQUINAS *Summa Theologiae* PART I Q 54  
A 5 288 d Q 77 A 8 R 4 406b-407a  
Q 79 AA 8 7 419b-421c Q 89 A 6 R 1  
478b d

20 AQUINAS *Summa Theologiae* PART I Q 51  
A 3 14b 15a PART I SUPPL Q 7 A 2 REP 4  
896a 897d

23 HUME *Leviathan* PART I 53a 54 60a b  
65c

3 Remembering as an act of knowledge and as a source of knowledge 3b Sense and intellectual memory knowledge of the past and the habit of knowledge

31 DESCARTES *Rules* III 4c d VI 17b 18b

31 SPINOZA *Ethics* PART II PROP 18 SCHOL 382a b PART V PROP 21 458a

35 LOCKE *Human Understanding* BK I CH III SECT 21 118b 119a BK II CH X SECT 2 141b-c SECT 7-8 142c 143a BK IV CH I SECT 8-9 308b 309b CH VI SECT 11 357b-c CH XVI SECT 1 2 366d 367a

38 ROUSSEAU *Inequality* 341d

53 JAMES *Psychology* 324a 424b-427a esp 424b-425b [in 3] 433a-434a 450a-451b

3c The scientist's use of memory collated memories as the source of generalized experience

8 ARISTOTLE *Posterior Analytics* BK II CH 19 [99<sup>b</sup>34 100<sup>b</sup>9] 136b-c / *Metaphysics* BK I CH I [98<sup>a</sup>28-98<sup>b</sup>3] 499a 500a

28 GILBERT *Loadstone* PRE 1a 2d

28 HARTLEY *Motion of the Ideas* 273d / *On Animal Generation* n 332a 335 esp 334c d

30 BACON *Advancement of Learning* 59a b / *Novum Organum* PART 105a 106d BK I 107a 136a c esp APP II 26 107d 108d, APP 97-98 126c 127b APP I 128b-c

31 DE CARTES *Rules* III 4c d VII 10b 12a passim VIII 14b XVI 33d 35c / *Discourse* PART II 47c d

33 PASCAL *Vacuum* 355a 358b

53 JAMES *Psychology* 385a b 617b 678a

3d Memory as the muse of poetry and history the dependence of history on the memory of men

4 HOMER *Iliad* BK II [184 493] 14d 15a / *Odyssey* BK I [1 10] 183 BK III [2-82] 222d 223a [1<sup>q</sup>9-2] 226d 227b

6 HERODOTUS *History* BK I 1a BK III 114a

6 THUCYDIDES *Peloponnesian War* BK I 353d 354c BK V 489a b 500d 501a

7 PLATO *Torques* 443d-444c / *Cratylus* 479a b

13 VIRGIL *Aeneid* BK VII [641-646] 254a

14 PLUTARCH *Pericles* 128d 129a

15 TITUS LIVY *Annals* III 48c BK I 66b-d

21 DANTÉ *Divine Comedy* *HELL* [1-9] 2c / *PARADISE* [1 12] 106a XXXIII [46-7] 156c 157a

23 HORACE *Leisure* P RT I 71c

25 MONTAIGNE *Essays* 41b-41a 199c-d 305b-306a

30 BACON *Advancement of Learning* 13d 14b 32d 33b 34c 38c 39a

33 PASCAL *Pensées* 626 286b

36 SWIFT *Gulliver* P RT II 169a

36 SPENCER *Trust and Shandy* 193a 194b

40 GIBSON *Decline and Fall* 28c d 296a 354c-d 413b-d

41 GIBSON *Decline and Fall* 337c 501c 503a passim esp 502a

44 BOSWELL *Johnson* 1b-c 3d-4a

46 HERGEL *Philosophy of History* INTRO 153a 154c 181a 182a PART I 239c 240a 247d 248a

47 GOETHE *Faust* DEDICATION 1a b

51 TOLSTOY *War and Peace* BK III 134a-c ix ix 366d 367b

4 The contribution of memory to the binding of time

4a Memory in the life of the individual personal identity and continuity

4 HOMER *Odyssey* BK IX [82-104] 230a

7 PLATO *Phaedrus* 138c 140a / *Republic* BK VI 374d 375a / *Parmenides* 614a-c

8 ARISTOTLE *Soul* BK III CH 5 [430<sup>a</sup>20-2] 667d

9 ARISTOTLE *Rhetoric* BK II CH 12 [1389<sup>a</sup>10-4] 636c CH 13 [1390 6-10] 637b-c

12 LUCRETIUS *Nature of Things* BK III [6<sup>a</sup>6 8] 38d [83-86g] 40c-41a

13 VIRGIL *Aeneid* BK I [441 493] 115a 116b BK II [1 1] 124a BK VI [703 75] 229b 231a

17 PLOTINUS *Fourth Ennead* TR III CH 2 31 154d 158c passim TR IV CH I 17 159a 165d passim

18 AUGUSTINE *Confessions* BK XI PAR 1 33 93b-98c P PAR 36-38 97d 98c

20 AQUINAS *Summa Theologiae* BK III SUPPL Q 8 A 1 997b 998c Q 98 A 7 1076d 1077b

21 DANTÉ *Divine Comedy* PURGATORY XXXI XXXII 100d 105d passim

25 MONTAIGNE *Essays* 15a 16c 236b-23a 316a 317a 465c-466c

31 DE CARTES *Meditations* VI 103a d

35 LOCKE *Human Understanding* BK II CH XXVII SECT 9-16 222a 227d passim esp SECT 20 225c d

40 GIBSON *Decline and Fall* 344c 345d

47 GOETHE *Faust* PART I [7 9-84] 20b

48 MELVILLE *Moby-Dick* 19a 20a

49 D RWIN *Descent of Man* 29 a-c

51 TOLSTOY *War and Peace* BK X 394d

52 DOSTOEVSKY *Brothers Karamazov* II 110c II 411b-412c

53 JAMES *Psychology* 145a 154a 155b 213a 259b esp 214 216b 229a 230a 240a 258b 259a 396a 397a 412b-413a 418a 421 421a

54 FREUD *Origin and Development of Psychoanalysis* 12c / *Life and Death* 760a b / *Civilization and Its Discontents* 769a 770c TP 70b-c

4b Memory in the life of the group or race instinct legend and tradition

OLD TESTAMENT *Exodus* 13 15 12 14 20 13 16 17 14 20 8 11 / *Leviticus* 23 24 25 / *Numbers* 15 38 41 / *Deuteronomy* 4 32 40 57 5 6 7 18 19 8 2-6 9 7 15 12 13 16 1

- III 24 17 22 32 7 / *Joshua* 11 13 3 14  
 42--(D) *Joshua* 1 12 13 3 14 4 9 / *Ether*  
 925 32 / *Psalms* 102 12 135 13--(D) *Psalms*  
 101 13 134 13 / *Ezekiel* 1 11 16 9 5 /  
*Isaiah* 44 21 46 9--(D) *Isaiah* 44 21 46 9 /  
*Malachi* 4 1--(D) *Malachi* 4 4  
 APOCRYPH 14 / *Maccabees* 14 16--19--(D) OT  
*1 Maccabees* 14 16--49  
 NEW TESTAMENT *Matthew* 26 6--13 / *Mark*  
 14 3--9 / *Luke* 22 19--20 / *1 Corinthians*  
 11 23 25  
 7 PLATO *Lau.* BK VII 716a b 717d 718c  
 11 VIRGIL *Aeneid* BK I [44] 493] 115a 115b BK  
 III [51] 191] 149b 152a  
 15 TACITUS *Annals* BK III 60d 61a  
 20 AQUINAS *Summa Theologiae* PART I II Q 97  
 2 235d 237b  
 26 SHAKESPEARE *Henry V* ACT IV SC III [40-  
 67] 556a b / *Julius Caesar* ACT III SC II [79-  
 82] 584c  
 31 DES CARTES *Discours* PART II 46b-c  
 33 PANGLOSS *Gulliver* PART IV 169a  
 40 GIBSON *Dilemma and Fall* 83b d 97c 98c  
 398b 413b-d 544c-545c 627b d  
 41 GIBSON *Dilemma and Fall* 527d 528a-c  
 43 MILL *Representations of Government* 424c-425b  
 46 HEGEL *Philosophy of Right* PART III par  
 356 112a b / *Philosophy of History* INTRO  
 153b-c 181a 182a 186d 190b PART I 227b c  
 230c 231b 239c 241a PART II 259b-c 261b  
 263d 266a  
 49 DARWIN *Descent of Man* 318a-c 570b 571b  
 51 TOLSTOY *War and Peace* 2 1009c 647b-c  
 53 JULIUS CAESAR *Philosophy* 717a 719a esp 718b 719a  
 722b 723a esp 724b 725a 731b 851b 853a  
 858a  
 54 FREUD *On the Development of Psychology*  
*Analysis* 4a b / *Introductory* 413c / *Unconscious*  
 439d / *General Introduction* on 509a 513d pas  
 sum esp 511b-513b 526 d 591d 592b  
 599a b 608c d 613a / *General Psychology*  
 680c-689b esp 688d 689a 689b [in 1] 692a  
 693a / *Ego and Id* 705c 708b esp 707b 708b  
 / *Id and Ego* 763b-c 764d 765a / *Culture*  
 and *the Unconscious* 795b 796c 800a b  
 / *New Introduction to Lectures* 834b d  
 5 The activity of imagination on fancy or fan-  
 tasy the nature and variety of images  
 7 PLATO *Sophist* 577a b / *Philebus* 623d 624c  
 8 ARISTOTLE *Soul* BK III ch 3 659c 661b  
 ch II [433] 32-434 9] 666d  
 9 ARISTOTLE *Rhetoric* BK I c II [137 28 29]  
 613c 614b  
 13 VIRGIL *Aeneid* BK VIII [18 25] 259b  
 17 PLOTINUS *Enneads* on TRUTH III 31 158b-c  
 18 AUGUSTINE *Confessions* on BK I pa 13-14 74c  
 75a  
 19 AQUINAS *Summa Theologiae* PART I Q 1 A  
 9 REP 2 58b-59a III 73 A 4 ans 41d-413d  
 Q 84 A 6 ans and REP 2 447 449a  
 21 DANTE *The Comedy* PURGATORY XVII  
 [1-45] 78c 79a  
 23 HOBBS *Leviathan* PART I 49a 52b 61a b  
 PART III 172b d PART III 258b-d 261a  
 263a c  
 25 MONTAIGNE *Essays* 14c 15a  
 26 SHAKESPEARE *Romeo and Juliet* ACT I SC  
 IV [96-103] 291c / *Richard III* ACT V SC V [1  
 41] 349d 350a / *Macbeth* Night 1 D am  
 ACT V SC I [1 22] 370d 371a  
 30 BACON *Advancement of Learning* 66c-67b  
 31 DESCARTES *Rules* PART II 19d 20a / *Meditations*  
 II 79a-c VI 96b 97a 98d 99a  
 31 SPINOZA *Ethics* PART II PROP 17 SCHOL  
 381b-d RO 40 SCHOL 2 388a b PART V  
 PROP 34 DEMONSTR 460c d  
 33 MONTAIGNE *Pa ad e Lo* I BK V [95 113] 177b  
 35 LOCKE *Human Understanding* BK II CH II  
 SECT 2 128a b CH VI SECT 6 145a CH XII  
 SECT 1-C CH III SECT 1 147b 149a CH XIII  
 SECT 4-6 149b d SECT 27 154c d CH XIV  
 SECT 24-31 160b 163a passim CH XV 3 CT  
 3 162c d CH XVI SECT 1 2 165c d SECT 5  
 166b-c CH XVII SECT 3 7 168b 169c CH  
 XVIII SECT 2 201a b CH XIX SECT 33 37  
 312d 214b passim BK I CH I SECT 15  
 303b-c BK IV CH IV SECT 5 324d  
 35 BERKELEY *Human Knowledge* INTRO ECT  
 10 406d-407b ECT 1 413a SECT 5 414a b  
 35 HUME *Human Understanding* SECT I DIV II  
 455b DIV II 455d 436b SECT V DIV 32  
 466c d  
 42 HUME *Pa ad e R* on 173b 174a *Judgement*  
 493c d 528c 529c  
 46 HEGEL *Philosophy of History* INTRO 153a-c  
 155b V WR I 219d 221a 254b d  
 49 DARWIN *Descent of Man* 29 a b  
 51 TOLSTOY *War and Peace* BK I 105d 106b  
 BK V 294b 295a 297a 298a BK VI 1  
 318b-c BK XI 523d 524c BK XII 542d  
 543a 544a b BK XIV 601 602d 605c d  
 53 J M *Philosophy* 480a 501b  
 54 FREUD *General Introduction* 483b 597b-  
 599d esp 599b d / *New Introduction to Lectures*  
 837d  
 5a The distinction between reproductive and  
 creative imagination the representative  
 image and the imaginative construct  
 7 PLATO *Sophist* 577c  
 12 LUCRETIUS *Nature of Things* BK IV [722  
 748] 53d 54a  
 18 AUGUSTINE *Confessions* BK I pa 14 74d 75a  
 19 AQUINAS *Summa Theologiae* PART I Q 12  
 A 9 REP 2 58b 59a Q 78 A 4 411d-413d  
 Q 84 A 6 REP 2 447c-449a  
 23 HOBBS *Leviathan* PART I 50d PART IV  
 262a-c  
 30 BACON *New Organon* BK I APH 60 112c  
 113a  
 31 DESCARTES *Discours* PART V 54 b /  
*Meditations* 76a b III 82d 83b

- (5) *The activity of imagination on fancy or fantasy the nature and variety of images 5a The distinction between reproduct and creative imagination the representational image and the imaginative construct*
- 31 SPINOZA *Ethics* PART II PROP 49 SCHOL, 392c d 393c d
- 32 MILTON *Paradise Lost* BK V [95-113] 177b
- 35 LOCKE *Human Understanding* BK I CH XXII SECT 2 201a b CH XXIX 238a 239b passim
- 35 BERKELEY *Human Knowledge* INTRO SECT I 406d 407a SECT I 413a
- 35 HU *Human Understanding* SECT II DIV 13 455d-456b SECT V DIV 39-40 466c-467c
- 42 KANT *Pure Reason* 89b c 173b 174a 211c 212a / *Judgement* 493-495a c 528c 529b
- 53 JAMES *Psychology* 480a b
- 54 FREUD *Interpretation of Dreams* 270c 271a
- 5b *The image distinguished from the idea or concept the concrete and particular as contrasted with the abstract and universal*
- 7 PLATO *Carthage* 108c 113c 113c 114a / *Phaedrus* 126b // *Republic* BK II 333c d / *Theaetetus* 334d 535a / *Seventh Letter* 809c 810d
- 8 ARISTOTLE *Posterior Analytics* BK I CH 8 111b c CH 12 120a c BK II CH 19 [100-15] 136d / *Metaphysics* BK I CH I [980-8] 981a13 499a 500a CH 9 [990b-15] 508d BK II CH I 4 [999-14] 518a b / *Soul* BK II CH 5 [117b-7] 281b c BK III CH 8 [432-9-14] 664c d
- 9 ARISTOTLE *Ethics* BK VI CH 3 [1147b3-6] 397d
- 11 AUGUSTINE *City of God* BK X PAR 16-19 75b 76b PAR 23 77a b
- 19 AQUINAS *Summa Theologiae* PART I Q 55 A 2 REP 2 289d 290d Q 75 A 2 REP 3 379c 380c A 3 REP 2 380c 381b Q 8 A 3 ANS 430c 431d Q 84 A 1 NS and REP 2 440d 442a A 2 N and REP 2 442b-443c AA 6-7 447c-450b Q 85 AA 1 2 451c 455b Q 86 ANS 461c-462a PART II Q 17 A 7 690d 692a Q 29 A 6 A 5 and REP 3 748b 749a
- 20 AQUINAS *Summa Theologiae* PART II Q 17 A 7 690d 692a Q 29 A 6 A 5 and REP 3 748b 749a
- 23 HOBBS *Leviathan* PART IV 262a b
- 31 DESCARTES *Discourse* PART IV 53b / *Meditations* II 79a c 80a 81d III 82d 83b VI 96b-97a 98d 99a / *Objections and Replies* PART II 130a b 136d 137a 137d 138d 211d 212a 218c d
- 31 SPINOZA *Ethics* PART II PROP 44 389b 390a PROP 48 SCHOL 391b c PROP 49 SCHOL, 391d 392c PART V PROP 34 // ONSY 460c d
- 35 LOCKE *Human Understanding* BK I CH XI SECT 8-9 145b c CH XXIX SECT 8-9 244d 245a BK III CH VI CT 32 33 277c 278c BK I CH VII SECT 9 339a b
- 35 BERKELEY *Human Knowledge* INTRO SECT 6-19 405d 410c passim esp SECT 12 16 408a 409d SECT 25 27 417d-418b esp SECT 27 418a b SECT 89 430b-c SECT 135 142 440 441c esp SECT 140 440d-441a SECT 142 441b c
- 38 ROUSSEAU *Inequality* 341c 342a
- 42 KANT *Pure Reason* 15d 16c 23a 24a 34a c 115b c / *Judgement* 542b 543c 570c 372b
- 46 HEGEL *Philosophy of History* INTRO 155b PART I 219d 220a 230c 231b 254b d
- 53 JAMES *Psychology* 305a 311a esp 307b 308b 311b 312b [fn 1] 480b 484a
- 54 FREUD *Unconscious* 442b 443d
- 5c *The pathology of imagination hallucinations persistent imagery*
- 7 PLATO *Theaetetus* 520c 522b
- 8 ARISTOTLE *Memory and Reminiscence* CH 2 [453-15-31] 695b d / *Dreams* CH 2 [460-31-32] 704b d
- 14 PLUTARCH *Marcus Brutus* 816d 817c
- 19 AQUINAS *Summa Theologiae* PART I Q 1 A 2 REP 2 102a d Q 51 A 2 ANS 276b-277a Q 54 A 5 288a d Q 84 A 6 REP 1 447c 449 A 8 REP 2 450b 451b Q 111 A 3 ANS and REP 4 570b 571b
- 20 AQUINAS *Summa Theologiae* PART II Q 53 A 3 ANS 21d 22d
- 22 CHAUCER *Miller's Tale* [3611-3617] 219b
- 23 HOBBS *Leviathan* PART I 50d 51b-52b 80a PART III 172c d 174b PART IV 258b d 261a
- 25 MONTAIGNE *Essays* 36c 41b 237a b 405d 406a
- 27 SHAKESPEARE *Macbeth* ACT II 3 1 [33-61] 290d 291a A T III SC IV [38-121] 298a 299a
- 29 CERVANTES *Don Quixote* PART I 1d 2b 4b-c 18d 22a 44d 46b 50b 52d 134b 136a PART II 285a 288c
- 31 DE CARTES *Rules* XII 22c 23a / *Meditations* I 75c 77c / *Objections and Replies* 209c
- 31 SPINOZA *Ethics* PART IV PROP 44 SCHOL 437d-438a
- 32 MILTON *Paradise Lost* BK V [95-128] 177b-178a / *Samson Agonistes* [590-605] 352b
- 35 HU *Human Understanding* SECT II DIV 455b-c
- 40 GILSON *Dilemma of Fall* 598a b
- 44 BOYLE *Letter to a Friend* 13 d 124b 125a
- 46 HEGEL *Philosophy of History* INTRO 196d 197c
- 47 GOETHE *Faust* PART I [440-4612] 110a 114b
- 48 MELVILLE *Moby-Dick* 148b 150a 232b 235a
- 51 TOLSTOY *War and Peace* BK II 109d 110 BK VII 293c 294a BK XI 524c 527a BK XII 616a 617a
- 52 DOSTOEVSKY *Others' Land* or BK XI 337a 348d
- 53 JAMES *Psychology* 274a 490-493a 506a 507a esp 507b 508b [fn 1] 515a 520a 527a 538b esp 527a 533a 662a 663 [f 1] 747b [fn 3] 842b 844a

54 Freud *Origin and Development of Psychoanalysis* 1st ed / *Hysteresis* 76d 85d d 102b 106b esp 106a 115a 117d / *Interpretation of Dreams* 176b c 334c 355b / *General Introduction* 551b 552a 597b 600b esp 599d 600b / *Ego and Id* 700c

6 The role of imagination in thinking and knowing

6a Imagination as knowledge its relation to possible and actual experience

7 Plato *Republic* BK VI 383d 388a / *Symposium* 575d 577b

8 Aristotle *Soul* BK III CH 3 659c 661b

18 Augustine *Confessions* BK X part 14 74d 75a

19 Aquinas *Summa Theologiae* PART I Q 46 A 1 REP 8 250a 251d

20 Hobbes *Leviathan* PART I 503 54c

30 Bacon *Advancement of Learning* 55b d

31 Descartes *Rules* XII 19d 20d XIV 28a d / *Discourse* PART IV 54a b / *Meditations* II 79a 81d VI 96b-97a 98d 99a / *Objections and Replies* I DE II 130a b

31 Spinoza *Ethics* PART I PROP 17 SCHOL 381b d PROP 26 COROL and DEMONSTR 384b PROP 40 SCHOL I 2 387b 388b PROP 44 COROL I and SCHOL 389c 390a ART IV DEF 6 424b PRO I SCHOL 424d 425a PART V PROP 34 DEMONSTR 460c d

42 Kant *Pure Reason* 72c 88a 227a 230c

53 James *Psychology* 285a 287b esp 285b 480b 520a 521a 617a 625a passim esp 621a

6b The effect of intellect on human imagination the imagination withdrawing from the

8 Aristotle *Soul* BK II CH 3 [429 4-8] 661b CH II [433<sup>b</sup> 434 11] 666d 667a / *Memory and Reminiscence* CH 2 [453 5-4] 695b

9 Aristotle *Ethics* BK VII CH 3 [1 4 3-6] 397d

19 Aquinas *Summa Theologiae* PART I Q 78 A 4 ANS and REP 4-5 411d-413d Q 81 A 3 ANS and REP 2 3 430c 431d Q 81 2 REP 1 442b-443c A 6 REP 1 447c-449a Q 85 A 1 REP 4 451c-453c PART I II 17 A 7 690d 692a Q 29 A 6 AN 742b 749a

20 Aquinas *Summa Theologiae* ART I II Q 50 A 3 REP 3 86b 9a Q 51 A 3 14b 15a

21 Hobbes *Leviathan* PART I 52b 53a b

25 Montaigne *Essays* 229d 230b

30 Bacon *Advancement of Learning* 55b d

31 Descartes *Meditations* V 96d 97a

35 Locke *Human Understanding* BK II CH XI SECT III 145d 146a

38 Rousseau *Inquiry after Truth* 341d 342a

42 Kant *Judgment* 479a

49 Darwin *Discourse in Naturalism* 292a 294b esp

292a 293a 296c 297b

53 James *Psychology* 655a 666b 678b 686b esp 681b-682a 686a b

6c The dependence of rational thought and knowledge on imagination

7 Plato *Phaedrus* 126b-c / *Republic* BK III 333b d BK VI VII 333d 398c / *Symposium* Letter 809c 810b 810d

8 Aristotle *Soul* BK I CH I [403 2 15] 632a b / *Memory and Reminiscence* CH I [449<sup>b</sup> 30 450 14] 690c d

17 Plotinus *Enneads* TR III CH 30-31 157d 158c

19 Aquinas *Summa Theologiae* PART I Q 75 A 3 REP 380c 381b Q 84 AA 6-8 447c 451b Q 85 1 451c 453c A 4 ANS 459c 460b Q 88 A 1 ANS 469a-471c Q 89 A 1 ANS and REP 1 473b-475a A 5 ANS and REP 4 477a-478b

20 Aquinas *Summa Theologiae* PART I II Q 51 A 1 ANS 12b 13c Q 52 A 1 ANS 15d 18a PART III Q II A 2 773a d

23 Hobbes *Leviathan* PART I 52b 54c 66c 67a

31 Descartes *Rules* XII 19d-20d XIV 28a d 30b 31a / *Discourse* PART I 41d / *Meditations* II 79a c VI 96b-97a / *Objections and Replies* I 136d 137a

31 Spinoza *Ethics* PART III PROP 40 SCHOL I 367b 368a

42 Kant *Pure Reason* 14a 108a c esp 14a 15c 23a 33d 41c 42b 48d 51d 53b 55a 56d 59b 61a 61a 66d 93c 194d 195a / *Judge-ment* 542b 543c

53 James *Psychology* 158a 161a 301a 302a 328a 331b esp 328a b 331a b 549a 550a 677a 678b

54 Freud *Interpretation of Dreams* 367b c 385b / *Unconscious* 442b 443a / *Ego and Id* 700b-701a 701d

6c(1) The abstractness of ideas from images the image as a condition of thought

8 Aristotle *Posterior Analytics* BK I CH 31 [87<sup>b</sup> 30-88 17] 120a c / *Topics* BK VI CH 4 [1 4 2 4] 194d 195a BA VI CH I [156 4-1] 211d 212a / *Soul* BK III CH 7 [431 14 439] 663d 664b CH 8 [432 2 14] 664c d / *Memory and Reminiscence* CH I [449<sup>b</sup> 30-450 25] 690c 691a

19 Aquinas *Summa Theologiae* ART I Q 55 A 2 REP 2 289d 290d Q 70 A 3 365b 367a Q 75 A 2 REP 3 379c 380 A 3 REP 2 380 381b 382c 383c 384c A 7 CONTRARY 384d 385 Q 76 A 1 ANS 385d 388c Q 79 A 4 REP 3 417a 418c Q 84 A 6-8 447c 451b Q 85 A 1 451 453c Q 86 ANS 461-462a PART I Q 29 A 6 ANS and REP 1 3 748b 749a

20 Aquinas *Summa Theologiae* PART I Q 50 A 4 REP 1 3 9a 10b

31 Descartes *Discourse* PART V 53b

35 Locke *Human Understanding* BK II CH XI SECT 15 98d 99a BK CH XI SECT 8-9

(6c) *The dependence of rational thought and knowledge on imagination* 6c(1) *The abstract on of id as from images the image as a condition of thought*

145b c CH V I SECT I 147b c CH XXVII SECT 8-g 244d 245a BK IV CH VII SECT 9 339a b

35 BERKELEY *Human Knowledge* IV 80 SECT 6 19 400d-410c passim esp SE T 12 16 408a 409d SECT 9 00 4 1d 432c

35 HUME *Human Understanding* SE T VII DIV 122 50 ■ DIV 124 125 506a 507a esp DIV 125 507b [fn 1]

38 ROUSSEAU *Inequality* 341d 342a

46 HEGEL *Philosophy of History* PART I 254b d

53 JAMES *Psychology* 305a 308a 330a 331b

6c(2) *The schema of the imagination as mediating between concepts of the understanding and the sensory manifold of intuition the transcendental unity of apperception*

42 KANT *Pure Reason* 14a 108a c esp 48d 55a 61a 64a 66d 93c 193a 19 a / *Practical Reason* 319c 320b / *Judgement* 542b 543c

53 JAMES *Psychology* 232b 235a passim

7d *The limits of imagination imageless thought the necessity of going beyond imagination in the speculative sciences*

7 PLATO *Symposium* 167a d / *Republic* BK VII 388a 398 esp 396d 398c / *Statesman* 595a c / *Seventh Letter* 809c 810b

8 ARIOTTE *Soul* BK II CH 7 [431<sup>b</sup> 12 19] 664b / *Memory and Reminiscence* CH I [440<sup>b</sup> 35 450 0] 690c d

12 LUCRETIUS *Nature of Things* BK I [265 328] 4b 5a [599-612] Bb-c BK II [80 141] 16a d [308 332] 19a b

11 AUGUSTINE *City of God* BK II CH 2 323a c / *Christian Doctrine* BK I CH 7 626b c

19 AQUINAS *Summa Theologiae* PART I Q 1 A 9 8d 9c Q 12 A 3 52c 53b Q 75 A 1 ANS and REP 1 2 378b 379c A 2 CONTRARY 379 380c A 3 ANS 380c 381b Q 84 A 1 AN and REP 2 440d 442a 2 REP 1 442b-443c A 6 447c-449a A 7 REP 3 449b 450b Q 85 A 1 ANS nd REP 2 452c-453c Q 8 89 464d 480c Q 93 A 6 REP 4 496b-498a PART II Q 17 7 REP 3 690d 692a

11 HOBBS *Leviathan* PART I 52c 54b c 78d 79a 80a ■ PART II 162b d PART IV 262a ■

30 B CON *Advancement of Learning* 55b d / *Notum Organum* BK I AP 1 48 110d 111a

31 DESCARTES *Rules* IV 6b 7d XIV 0b 31a / *Discourse* PT II 46c-47a PART IV 53b / *Meditations* 72b c 75a 77 11 79a-c IV 89a b VI 96b-97a / *Objections and Replies* 128d 129a 215b-c 217c d 218c d

31 DUNGEON *Ethics* PART I PRO 8 SCHOL 2

306d 357d passim PROP 15 SCHOL 360b

361d A PENDING 369b 37 d prs im

32 MILTON *Paradise Lost* BK V [544-576] 187a 1

33 PASCAL *Pensées* 1 171a 172a

35 LOCKE *Human Understanding* BK II CH I SECT 24 127b-c CH XIV SECT 26 160c d ■ CH XV SECT 12 165b c CH XVII SECT 7 21 169b 173d esp SECT 15 171b 172a CH XXIX SECT 16 237b 238a B III CH I SECT 5 252b c CH VI SECT 9 270d 271a BK IV C I VII SECT 9 338d 339b CH V I SECT 12 3 0b 371a

35 BERKELEY *Human Knowledge* INTRO SECT 6-19 405d 410c SECT 27 418a ■ SECT 13 142 440a 441c pas im

38 ROUSSEAU *Inequality* 341c 342b

42 KANT *Pure Reason* 1a b 15c 16c 17d 19a 19d 20c 85d 93c 211c 212a 217d 218a 227a 230c / *Fund. Prin. Metaphys. c. f. Mo. al.* 264d / *Science of Right* 399a / *Judgement* 497a 503d 506a 511a esp 506d 509d 510a 578a b 603b d

45 LAVOISIER *Elements of Chemistry* PART I 10c

46 HEGEL *Philosophy of History* PART I 25 258a

53 JAMES *Psychology* 158a 161a esp 158b-159a 301a 302a 549a 550b

54 FREUD *Beyond the Pleasure Principle* 661d 662b / *Civilization and its Discontents* 769b-770b esp 770a

## 7 Imagination and the fine arts

7a *The use of imagination in the production and appreciation of works of art*

9 ARIOTTE *Parts of Animals* BK I CH I [639<sup>b</sup> 12 20] 161d 162a [640 29-33] 162d

18 AUGUSTINE *Confessions* BK XI par 90d 91a

23 HOBBS *Leviathan* PART I 67b c PART I 262c

26 SHAKESPEARE *The Tenth Muse* 171d 172a / *Henry V* PROLOGUE 532b d CT III PROLOGUE 543c d

29 CERVANTES *Don Quixote* PART II 285a 288c

30 RACINE *Advancement of Learning* 32d 38c 39a

31 DESCARTES *Meditations* 76 b

36 STERNE *Tristram Shandy* 198a ■

37 FIELDING *The Tom Jones* 280a 296b d 298a

42 KANT *Pure Reason* 173b 174a / *Judgement* 473-c 482b-483d 491a ■ 492c 495a c 498b 502d 505a 511a esp 506d 509d 510a 52c 524a 525c 532a esp 528c 530c

46 HEGEL *Philosophy of History* INTRO 153a c PART I 254b d PART II 263d 265c

47 GOETHE *Faust* DEDICATION 1a b

50 MARX *Capital* 85c

52 DOSTOEVSKY *Brother Karamazov* BK I 284b d

54 FREUD *Origin and Development of Psychoanalysis* 18d / *Interpretation of Dreams* 181a b 383d / *Cerebral Introduction* 423c 600d 601b / *Group Psychology* 692c 693

7b The fantastic and the realistic in poetry  
the probable and the possible in poetry  
and history

- 6 HERODOTUS *History* bk II 73a b  
6 THUCYDIDES *Peloponnesian War* bk I 354b  
7 PLATO *Plaedrus* 140a d / *Ion* 142a 148a c  
esp 145d 148a / *Republic* bk II 320d 3 4c  
bk x 272c-434c / *Symposium* 561b-d 577d 579d  
9 ARISTOTLE *Poetics* ch 8 [1451 16] ch 19  
[451<sup>b</sup>39] 685d 686c ch 15 [1451<sup>a</sup>23<sup>b</sup>9]  
689b-c ch 17 [1455<sup>a</sup>21-35] 690c ch 24  
[460 2<sup>a</sup>] 696b c ch 25 [146<sup>b</sup>6-1461 8]  
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14 PLUTARCH *Thaesus* 1a b / *Coriolanus* 189b c  
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25 MONAGNE *Essay* 41b  
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30 BACON *Advancement of Learning* 38c 39b  
31 DICKENS *Discurso* PART I 4 a b  
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40 GIBSON *Decline and Fall* 186c d 345c  
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44 B SWELL *Johnson* 446c 447a  
46 HEGEL *Philosophy of History* INTRO 153a b  
47 GOETHE *Faust* PART II [74 8 7433] 181b-  
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48 MILLER *Moby Dick* 150 152a  
51 TOLSTOY *War and Peace* K 134a c
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- 7 PLATO *Republic* bk x 416a-c / *Timaeus*  
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25 MONAGNE *Essay* 290b-c 533d 534  
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42 KANT *Judgement* 560b  
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- 8a Dreams as divinely inspired their pro-  
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/ *I Kings* 3 5-15-(D) III Kings 3 5 5 /  
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5 AESCHYLUS *Persians* [76- 3] 17a d / *Prometh-  
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5 SOCRATES *Oedipus the King* [9 6-986] 108b



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- 5 EURIPIDES *Iphigenia Among the Taurians* 142  
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- 6 HERODOTUS *History* bk i 8a 10a 25b 31a  
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- 7 PLATO *Crito* 213b d / *Timaean* 466d 467c
- 8 ARISTOTLE *Prophetic signs* 707a 709a c
- 13 VIgil *Aeneid* bk iii [14, 179] 151a 152a  
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- 14 PLYTARCH *Themistocles* 98d 99a / *Alcibiades*  
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- 15 TACITUS *Annals* bk ii 26c bk vi 101b  
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- 18 AUGUSTINE *Confessions* bk iii par 19- o  
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- 19 AQUINAS *Summa Theologica* PART I Q 12  
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- 20 AQUINAS *Summa Theologica* PART III Q 7  
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- 21 DANTE *Divine Comedy* HELL XXXII [124]-  
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- 22 CHAUCER *Troilus and Criseida* bk v STANZA  
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- 23 HOBBS *Leviathan* PART II 165d 166a  
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- 24 RABELAIS *Gargantua and Pantagruel* bk iii  
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- 25 MONTAIGNE *Essays* 533d 534a
- 26 SHAKESPEARE *Julius Caesar* ACT II SC II  
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- 27 SHAKESPEARE *Cymbeline* ACT V SC IV [30-  
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- 30 B CON *Adventures of Learning* 54c 55a
- 3 MILTON *Paradise Lost* bk viii [283 499]  
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- 40 CIBBON *Down and Fall* 294d 296b
- 46 HEGEL *Philosophy of History* PART I 244c  
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- 53 JAMES *Psychology* 643b [fn 1]
- 54 FREUD *Origin and Development of Psycho-  
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- 6 HERODOTUS *History* bk vii 219b
- 8 ARISTOTLE *Nicomachean Ethics* 702a 706d
- 12 LUCRETIUS *De Rerum Natura* bk iv [722-822]  
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- 19 AQUINAS *Summa Theologica* PART I Q 84  
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- 20 AQUINAS *Summa Theologica* PART III SUPPL  
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- 23 HOBBS *Leviathan* PART I 50d 51d
- 25 MONTAIGNE *Essays* 36d 37a 229d 230b  
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- 27 SHAKESPEARE *Macbeth* ACT V SC I 306b-  
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- 32 MILTON *Paradise Lost* bk iv [797-809] 169b  
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- 35 LOCKE *Human Understanding* bk ii CH I  
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- 51 TOLSTOY *War and Peace* bk ii 86a bk iii  
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- 53 JAMES *Psychology* 535a 536a
- 54 FREUD *Origin and Development of Psycho-  
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- 7 PLATO *Republic* bk v 361a
- 23 HOBBS *Leviathan* PART I 52d 53a 67d  
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- 25 MONTAIGNE *Essays* 14c 15a 37b 177c d  
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- 26 SHAKESPEARE *Richard II* ACT V SC V [1 41]  
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- 29 LERVAULT *Do Quixote* PART I 1b-2b 18d  
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- 33 PASCAL *Pensées* 82-88 180b 189b
- 47 GOETHE  *Faust* PART II [10 039-066] 245a b
- 51 TOLSTOY *War and Peace* bk ii III d bk  
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- 54 FREUD *Origin and Development of Psycho-  
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## 8d The symbolism of dreams

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- 4 HOMER *Odyssey* BK XIX [509-581] 294c 295a c  
 5 AESCHYLUS *Persians* [476-230] 17a d / *Choephoroe* [523-552] 75b-c  
 5 EURIPIDES *Iphigenia Among the Tawrs* [42-66] 411c d  
 6 HERODOTUS *History* BK I 25b-c 28c 29a 47a-c BK II 78d  
 7 PLATO *Cratylus* 213b d / *Phaedrus* 221d 272a  
 8 ARISTOTLE *Propheta* 2 CH 2 [164<sup>b</sup> 7] 709c  
 14 PLUTARCH *Pyrrhus* 329c d / *Cimon* 398d 399b / *Eumenides* 473a b / *Alexander* 348d 549a / *Demosthenes* 702c 703b / *Demetrius* 727b-d  
 21 DANTE *Divine Comedy* PURGATORY IX [1-69] 65d 66c XIV [1-69] 81c 82a XXVII [91-108] 93c  
 22 CHAUCER *Troilus and Criseida* BK V STANZA 52 [127 b STANZA 177 185 143b 144b AT 254 207 217 147a 148b STANZA 24 152a  
 26 SHAKESPEARE *2nd Henry VI* ACT I SC II [17-55] 36c 37a / *Richard III* ACT I SC IV 114d 117c / *Romeo and Juliet* ACT I SC IV [49-103] 291a-c / *Julius Caesar* ACT II SC II [75-90] 578d 579a  
 27 SHAKESPEARE *Cymbeline* ACT V SC V [426-465] 488b d  
 3 MILTON *Paradise Lost* BK V [28-128] 176a 178a  
 46 HEGEL *Philosophy of History* PART II 263d 265

51 TOLSTOY *War and Peace* BK II 86a BK VI 249a 250a BK XI 481a-482b BK XII 561c d BK XIV 608a b EPILOGUE I 672b 673d 674a c

54 FREUD *Origin and Development of Psychoanalysis* 11c 12c / *Interpretation of Dreams* 178a 205c esp 189b 190a 194b d 204 d 252c 340a esp 252c 253a 332a 333b 336d 340a 356d 373a passim / *General Introduction* 489c 504d esp 489c-494d 513d 526c esp 513d 519d 532d 544d passim esp 536c 539a 541b 542b / *New Introductory Lectures* 809b-810b 812d 814d 816b-818b

## 8d(2) The recurrent use of specific symbols in dreams the dream language

54 FREUD *Origin and Development of Psychoanalysis* 12c d / *Psychoanalytic Therapy* 123d 124a / *Interpretation of Dreams* 173a 174d 178b 179c 230b 231c 265a 272c 277b 298a esp 278d 285c / *General Introduction* 504d 513d 516a 518c 523a 526c / *New Introductory Lectures* 813d 815a 817a

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## CROSS REFERENCES

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 Other discussions of the association of ideas and of reverie or daydreaming see DESIRE 5a IDEA 5c RELATION 4f  
 The consideration of memory as knowledge of the past see KNOWLEDGE 6b(2) TRUTH 6c TRUTH 3a(2) and for the distinction between memory and intellectual habit see HABIT 1 5d MIND 4c  
 The doctrine of reminiscence which identifies learning with remembering or for the doctrine of innate ideas, see IDEA 2b KNOWLEDGE 6c(3) MIND 4d(2)  
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 The problem of personal identity see SAME AND OTHER 1b SOUL 1d  
 The theory of racial memory in relation to instinct and tradition see HABIT 3c LANGUAGE 3c POETRY 3

For The function of imagination in thinking and knowing see MIND 2a(2) REASONING 1c and for the doctrine that universal concepts are abstracted from sensory images see IDEA 2g SENSE 5a UNIVERSAL AND PARTICULAR 4c

The theory of the transcendental unity of apperception to which memory or imagination contributes see KNOWLEDGE 6b(4) ONE AND MANY 4b SENSE 1c 3c(5)

The imagination as a factor in art see ART 5 and for another discussion of the probable and the possible in poetry see POETRY 8a(2)

Other discussions of dreams their causes and meaning see DESIRE 5a 6c LANGUAGE 10 PROPHECY 3c SIGN AND SYMBOL 6a and for the theory of conflict censorship and repression involved in the Freudian interpretation of dreams see DESIRE 4a-4d 6b

Matters relevant to the psychopathology of memory and imagination see DESIRE 5a-5b EMOTION 3a-3b MIND 5b MIND 8b SENSE 4d(-) TRUTH 3a(2)

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. There are two lists: the first is divided into two groups:

- I Works by authors represented in this collection
- II Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

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- SANTAYANA *Soliloquies in England and Later Soliloquies* CH 29  
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## Chapter 57 METAPHYSICS

### INTRODUCTION

IN this chapter as in MATHEMATICS we must distinguish controversies about the science we are considering from controversies in it. But here the situation is complicated by many ambiguities. In the tradition of western thought the name of science has never been denied to mathematics no matter how its subject matter has been defined or what conception of science has prevailed. But controversies about metaphysics often begin in modern times at least by questioning our right to use the word science when we speak of metaphysical inquiry or speculation. The challenge usually implies that metaphysics cannot be regarded as a body of valid knowledge because the peculiar objects it has chosen to investigate are not susceptible to scientific inquiry.

If experimentation were the *sine qua non* of scientific knowledge it would follow of course that a discipline which could not perform experiments or even less rigorous types of empirical research could not be called a science. But by that standard mathematics would also be ruled out. It does not seem to be the case however that mathematics and metaphysics stand or fall together.

Hume for example admits the one and excludes the other. If we are persuaded of his principles concerning science what havoc he says must we make when we run over our libraries. If we take in our hand any volume of divinity or school metaphysics for instance let us ask: *Does it contain any abstract reasoning concerning quantity or number?* No. *Does it contain any experimental reasoning concerning matter of fact and existence?* No. Commit it then to the flames for it can contain nothing but sophistry and illusion.

Nor does Kant make experimentation or empirical research indispensable to valid and certain knowledge. On the contrary pure as op-

posed to empirical physics is for him like mathematics in having the superior status of *a priori* knowledge. They are both sciences in the highest sense of the term because they consist of valid synthetic judgments *a priori*. Kant therefore does not exclude metaphysics from the ranks of science because he thinks that metaphysics according to its proper aim consists merely of synthetic propositions *a priori*. Not the method of metaphysics nor the form of its propositions but the character of its objects seems to be the cause of its frustration, reducing it to what Kant calls an *illusory dialectic* rather than a valid science.

It might be supposed that those who take the opposite view—that metaphysics is a science—even perhaps the highest of the sciences—would agree in defining its objects or the scope of its inquiry. This does not seem to be the case any more than it seems to be true that all those who criticize metaphysics conceive its subject matter in the same way.

Following what he takes to be the traditional conception of metaphysics in the mediaeval schools which appears to him to be continued in the writings of Descartes, Leibniz and Wolff, Kant says that metaphysics has for the proper object of its inquiries only three grand ideas: God, Freedom and Immortality. This also seems to be at least part of what Hume has in mind when he refers to school metaphysics and associates it with divinity by which he means theology natural or sacred. Yet we find William James saying that Hume is at bottom as much of a metaphysician as Thomas Aquinas because he is engaged in speculations concerning the relation or lack of relation, the identity or lack of identity in the discrete elements of immediate experience. Here the question seems to be not about God, freedom and immortality but about the existence of enduring

substances underlying all perceptible qualities or about a fixed order of reality behind the sequence of phenomena in experience. According to James the whole question of interaction and influence between things is a metaphysical question and cannot be discussed at all by those who are unwilling to go into matters thoroughly.

In the Preface to his *Principles of Psychology* James declares his plan to limit his own inquiries to what can be known by the empirical methods of the natural sciences. Psychology like physics must assume certain data. The discussion of these assumptions he says is called metaphysics and falls outside the province of this book. The data assumed by psychology just like those assumed by physics and the other natural sciences must sometime be overhauled. The effort to overhaul them clearly and thoroughly is metaphysics but metaphysics can only perform her task well when distinctly conscious of its great extent. The implication seems to be not that metaphysics is impossible but rather that metaphysics as James conceives it does not yet exist in any mature or satisfactory development. Only a metaphysics alive to the weight of her task he writes can hope to be successful. That will perhaps be centuries hence.

WE CANNOT FULLY explore the issue concerning the objects of metaphysics without observing that other names are used in the tradition of the great books to designate the discipline which rightly or wrongly claims to be the highest human science. The Greeks initiated the conception of a discipline which should be preeminent because it deals with first principles and highest causes. It not only searches for wisdom about the ultimate realities it also lays the foundations for all other sciences. But the Greeks do not have one name for this discipline nor metaphysics even among the various names they use.

Aristotle whose *Metaphysics* is the first great book to have this word in its title never uses the word to refer to the science which he is trying to define and establish. In the opening chapters he speaks of it under the name of wisdom for all men suppose what is called Wisdom to deal with the first causes and the principles of

all things. There are other theoretical sciences such as physics and mathematics which investigate causes or deal with principles but they do not reach to the highest causes or first principles nor do they take all things in their most universal aspect as the object of their inquiry.

Though physics also is a kind of Wisdom says Aristotle it is not the first kind and elsewhere he says that both physics and mathematics must be classed as parts of Wisdom. Physics deals only with material things in motion and the mathematician investigates abstractions—objects which except as abstracted cannot exist apart from matter and motion.

If there is something which is eternal and immovable and separated from matter clearly the knowledge of it belongs to a theoretical science—not however to physics nor to mathematics but to a science prior to both. It is that science which is the highest part of wisdom.

Aristotle gives two names to the supreme form of human wisdom or the highest of the theoretical sciences. He denominates it both from the position it occupies in relation to all other disciplines and also in terms of the kind of substance which it alone investigates. If there is no substance other than those which are formed by nature natural science (i.e. physics) will be the first science but if there is an immovable substance the science of this must be prior and must be first philosophy. But this highest science also deserves to be called theology as well as first philosophy. There are Aristotle says three theoretical philosophies mathematics physics and what we may call theology since it is obvious that if the divine is present anywhere it is present in things of this sort i.e. the eternal immutable immaterial.

THERE IS STILL another name for the highest speculative discipline in the Greek conception of the order of the sciences. Dialectic is the name which Plato gives to the search for first principles and for the knowledge of the most intelligible realities. As appears in the chapter on DIALECTIC Aristotle contrasts the dialectician and the philosopher as respectively concerned with opinion and knowledge but Plato regards the dialectician as preeminently the

philosopher. Not only does dialectic belong to the realm of knowledge rather than opinion but in the realm of knowledge mathematics occupies the lower dialectic the upper part. The mathematical sciences build upon hypotheses which they do not and cannot establish. Dialectic uses hypotheses only as steps and points of departure into a world which is above hypotheses in order that she may soar beyond them to the first principle of the whole and by successive steps she descends again without the aid of any sensible object from ideas through ideas and in ideas she ends.

Despite all the relevant differences between Plato and Aristotle concerning being and becoming reason and sense the intelligible and the sensible it seems possible to compare the knowledge which Plato calls dialectic with what Aristotle calls first philosophy or theology.

Both for example proceed from first principles and establish the foundations of the inferior sciences. On its downward path dialectic according to Plato brings the light of reason to bear on the understanding of the hypotheses which are the principles of mathematics. Though Aristotle thinks that mathematics rests on axioms or self-evident truths he also says that it must be the business of first philosophy to examine the principles of mathematics because the mathematician only uses them in a special application without investigating their general truth. Furthermore the question concerning how the objects of mathematics exist is a question for the first philosopher not the mathematician.

In the *Sophist* Plato to illustrate the difference between the sophist and the dialectician or philosopher develops an analysis of such terms as being and non-being, true and false, same and other, one and many, rest and motion. These it seems are the fundamental concepts in the philosopher's knowledge of the ultimate reality. But these are also the fundamental concepts in Aristotle's *Metaphysics*. In the medieval period when metaphysics generally replaces dialectic as the name for the first philosophy the so-called transcendental terms—such as *being, essence, other, one, true, good*—are treated as the basic metaphysical concepts and what is characteristic of them as abstractions

helps to characterize the nature of metaphysics as a science.

The word metaphysics comes into use as a result of the title supposedly given by the Alexandrian librarians to the work in which Aristotle treats the problems of the first philosophy. The word is short for the books which come after the books on physics. Plotinus uses the word and connects it with the Platonic meaning of dialectic. In the training of the metaphysician he says dialectic is the ultimate study.

Dialectic according to Plotinus is the method or discipline that brings with it the power of pronouncing with final truth upon the nature and relation of things—what each is, how it differs from others, what common quality all have to what kind each belongs and in what rank each stands in its kind and whether its being is real being and how many beings there are and how many non-beings to be distinguished from beings. But we must not think of dialectic. Plotinus declares as the mere tool of the metaphysician. It goes beyond metaphysics as vision or contemplative wisdom goes beyond discursive reasoning and demonstration. It leaves to another science all that coil of premises and conclusions called the art of reasoning.

THE QUESTION which Plotinus raises—whether there is a higher science or form of knowledge than metaphysics—is naturally considered by the great Christian theologians. In part their answer resembles that of Plotinus in part it differs. Where Plotinus speaks of dialectic as the most precious part of philosophy because it transcends reasoning and argument and reaches the sort of immediate apprehension of reality which cannot be expressed in words, theologians recognize the supremacy of mystical knowledge—a foretaste in this life of what the vision of God will be like in the life to come. But unlike Plotinus they do not think such knowledge here or hereafter is natural wisdom. Rather it is supernatural knowledge, the divine gift to man of a contemplative wisdom to which his nature cannot attain by its own unaided powers.

The subordination of metaphysical science to knowledge which is both supernatural and non-scientific (*i.e.* neither discursive nor analytical nor demonstrative) is considered in the chap-

ters on THEOLOGY and WISDOM Another subordination of metaphysics considered there also must be mentioned here as well That is the subordination of metaphysics to theology Both metaphysics and theology may be conceived as sciences which are engaged in reasoning and argument and in trying to demonstrate conclusions from principles But one is merely a human science working with the principles of reason whereas the other is what Aquinas calls sacred doctrine in order to signify that its principles are articles of religious faith

In the hierarchy of human sciences metaphysics remains supreme—the first philosophy It suffers only by comparison with theology insofar as the latter rests upon divine revelation and since it enjoys the certainty of faith escapes the insecurity of reason Though metaphysics and theology differ in their principles and somewhat in their methods they do not differ entirely in their subject matter Both for example may treat of God and of the existence of immaterial and imperishable beings Aquinas therefore must face the objection that there is no need for any knowledge in addition to metaphysics because everything that is is treated of in philosophical science—even God Himself in that part of philosophy called theology or the divine science by Aristotle To this he replies by giving two reasons for sacred theology

It is necessary he says for the salvation of man that certain truths which exceed human reason should be made known to him by divine revelation Even as regards those truths about God which human reason could have discovered it was necessary that man should be taught by a divine revelation because the truth about God such as reason could discover would only be known by a few and that after a long time and with the admixture of many errors Furthermore he continues there is no reason why those things which may be learnt from philosophical science so far as they can be known by natural reason may not also be taught us by another science so far as they fall within revelation Hence the theology included in sacred doctrine differs in kind from that theology which is a part of philosophy

These two kinds of theology are traditionally distinguished as natural and sacred When Fran-

cis Bacon divides the sciences into theology and philosophy he adds that in the former we do not include natural theology Natural theology is the divine part of philosophy yet it is clearly distinct from sacred theology or what Bacon calls inspired divinity

This distinction in whatever language it is made raises two problems The first concerns the relation of natural to sacred theology especially with regard to the scope of natural theology and the precise nature of its independence of sacred doctrine On this question there seems to be considerable difference between such writers as Augustine and Aquinas or Bacon and Descartes As already noted the various issues involved are reserved for discussion in the chapter on THEOLOGY The second problem is directly pertinent to metaphysics alone The question is whether metaphysics and natural theology are identical in subject matter or scope or whether natural theology is only a part of metaphysics

Aristotle seems to answer this question when he suggests that first philosophy and theology are interchangeable designations for the highest branch of speculative knowledge To the extent that he declares this science to be an inquiry concerning the existence and nature of immaterial and imperishable substances his definition of the object of metaphysics would seem to justify the title of theology

Descartes who also separates metaphysics from physics by reference to the immateriality and materiality of the substances which are their objects even more explicitly seems to give the whole of metaphysics a theological character In the Preface to his *Meditations on the First Philosophy* he says that he is concerned to treat of God and the human soul for as he explains to the professors of Sacred Theology of the Sorbonne I have always considered that the two questions respecting God and the soul were the chief of those that ought to be demonstrated by philosophical rather than theological argument

Though he adds the freedom of the human will to the existence of God and the immortality of the soul Kant's definition of the objects of metaphysical speculation similarly makes metaphysics an inquiry into things which lie outside the realm of physics and associates it



with the traditional subject matter of theology at least in the sense that here reason tries to prove propositions which are the main tenets of religious faith. In his Preface to the first edition of the *Critique of Pure Reason* Kant remarks that when reason finds itself compelled to have recourse to principles which transcend the region of experience it falls into confusion and contradictions. The arena of these endless contests is called Metaphysics.

*IF NOTHING IMMATERIAL EXISTS* if there are no beings apart from the changing things of sense experience or if although such things exist they cannot be known by reason proceeding in the manner of speculative science does it follow that metaphysics must also be denied existence at least as a speculative science? The answer seems to be clear. If the declared objects of a science do not exist or if those objects are unknowable by the methods which that science proposes to follow then it seems difficult to defend its claims to be a valid science against those who challenge them. The controversy over the validity of metaphysics would thus appear to turn on the truth or falsity of the two issues just mentioned.

But the matter cannot be so resolved if natural theology does not exhaust the whole of metaphysics that is if metaphysics considers objects other than the immaterial and if it inquires into their nature rather than their existence. Aristotle's definition of the subject matter of the first philosophy seems to contain an alternative conception of metaphysics one which may be quite consistent with the conception of it as theology but which however gives it problems to solve in the realm of physical things.

There is a science Aristotle writes which investigates being as being and the attributes which belong to being in virtue of its own nature. This definition of the first philosophy seems to differentiate it from mathematics and physics as sharply as the other definition in terms of immaterial and impensurable substances. The other sciences according to Aristotle do not treat of being *qua* being universally. The properties of anything which is in so far as it has being and the contraries in it *qua* being it is the business of no other sci-

ence to investigate for to physics one would assign the study of things not *qua* being but rather *qua* sharing in movement and mathematics is concerned with the attributes of things insofar as they are quantitative and continuous. These sciences mark off some particular kind of being some genus and inquire into this but not being simply nor *qua* being. Similarly these sciences omit the question whether the genus with which they deal exists or does not exist because it belongs to the same kind of thinking to show what it is and that it is.

Only the first philosophy does not inquire about particular subjects in so far as each has some attribute or other but speculates about being in so far as each particular thing is. Its subject matter then includes all existing things as existing and involves not only the question how anything which exists exists (i.e. the properties of being) but also the question whether certain things whose existence can be questioned do in fact exist. Whatever truths hold good for all things *qua* being—such as the principle that the same thing cannot both be and not be in the same respect at the same time—belong to the first philosophy even though as in this case Aristotle points out the law of contradiction may also belong to logic as the principle of demonstration.

THIS BROADER CONCEPTION of the first philosophy explains as its restriction to natural theology could not explain why the central books in Aristotle's *Metaphysics* treat of sensible physical substances their nature as substances the distinction between substance and accident form and matter potentiality and actuality as principles of the composite nature of changing substances and the properties of such existences in virtue of their having being e.g. their unity and divisibility their sameness and otherness.

Aristotle does not inquire whether such substances exist. He seems to take their existence as unquestionable for he frequently refers to physical things as the readily recognized substances. But in addition to the question how sensible substances exist there are such questions as whether there are or are not any besides sensible substances and whether there

a substance capable of separate existence from sensible substances and if so why? how? These latter questions lead to the concluding books of the *Metaphysics* which inquire into the existence of the non-sensible the immaterial the immutable. If Aristotle's theology begins here then theology is only a part—the crowning part perhaps—of a larger science whose object is not a special realm of being but of all of being.

Hobbes and Bacon go further than Aristotle in the direction of opposing the identification of metaphysics with theology. Where Aristotle to admit theological subject matter as a part of the first philosophy they exclude it entirely.

Hobbes does not use the word metaphysics in his own classification of the sciences: he employs it only as a term of derogation to refer to scholastic doctrines which he repudiates. His own classification makes *philosophia prima* that branch of natural philosophy which is prior to the mathematical and mechanical sciences. The latter deal with determinate quantity and motion. The antecedent science deals with quantity and motion indeterminate. These being the principles or first foundation of philosophy the science which deals with them is called *Philosophia Prima*.

Bacon distinguishes between first philosophy and metaphysics and between metaphysics and natural theology. First philosophy he says is the common parent of sciences. It is concerned with axioms not peculiar to any science but common to a number of them and also with the adventitious or transcendental condition of things such as little much like different possible impossible entity nonentity etc. Natural theology which is the divine part of philosophy because it inquires about God unity goodness angels and spirits is separate from the rest of natural philosophy.

But to assign the proper office of metaphysics, as contra-distinguished from primary philosophy and natural theology Bacon writes we must note that as physics regard the things which are wholly immersed in matter and movable so metaphysics regards what is more abstracted and fixed that physics supposes only existence motion and natural reason whilst metaphysics supposes also mind

and idea. As we have divided natural philosophy into the investigation of causes and the production of effects and referred the investigation of causes to theory which we again divide into physical and metaphysical it is necessary that the real difference of these two be drawn from the nature of the causes they inquire into. Physics according to Bacon inquires into efficient and material causes metaphysics into formal and final causes and as mechanics is the practical application of physical theory so what Bacon calls magic is the practical doctrine that corresponds to the metaphysical theory of forms.

AGREEMENT OR DISAGREEMENT CONCERNING THE SUBJECT MATTER AND PROBLEMS OF THAT WHICH CLAIMS TO BE THE HIGHEST HUMAN SCIENCE. However named does not seem to be uniformly accompanied by agreement or disagreement concerning the status and development of the discipline in question.

There seems to be some similarity for example between Plato's dialectic as an inquiry into forms and Bacon's notion of metaphysics as concerned with formal causes—a similarity which Bacon himself observes. But where Plato seems to think that dialectic exists to be taught and learned Bacon's judgment is that this part of metaphysics if not its part dealing with final causes has not yet been developed because the right method has not been employed.

Again Aristotle's conception of metaphysics as concerned with the primary axioms the universal principles applicable to all existence and the transcendental properties of being seems to bear some resemblance to Bacon's primary philosophy. But Bacon writes as if Aristotle's *Meta. h.* had not been written or at least as if it had not succeeded as Aristotle might have supposed it had in establishing the science which Bacon finds for the most part in a defective or undeveloped condition.

If we turn to natural theology either as a part of metaphysics (with Aristotle) or as separate from metaphysics (with Bacon) or as identical with metaphysics (with Descartes) we find the same situation. Aside from some verbal and some real differences concerning the objects of the inquiry Aristotle Bacon and Descartes think that the existence of beings

apart from the sensible world of matter and change can be demonstrated and that some thing can be known of their nature—whether they are called immaterial substances spirits and intelligences or God angels and souls

With some alterations in language and thought Plato and Plotinus Augustine and Aquinas Spinoza and Locke can be added to this company. They are theologians in that sense of theology which implies a rational knowledge—without religious faith and either by intuition or demonstration—of beings which really exist yet are not sensible or material or mutable or finite. Spinoza for example does not use the word metaphysics but he holds that the human mind possesses an adequate knowledge of the eternal and infinite essence of God. Although Locke's use of the word metaphysics is derogatory and though the purpose of his *Essay Concerning Human Understanding* is to prevent human inquiries from extending beyond man's capacities he attributes greater certainty to our knowledge of God and the soul than to our knowledge of bodies, and finds no greater difficulty in our speculations about spirits than about particles of matter.

Experimenting and discovering in ourselves knowledge and the power of voluntary motion as certainly as we experiment or discover in things without us the cohesion and separation of solid parts which is the extension and motion of bodies. Locke writes we have as much reason to be satisfied with our notion of immaterial spirit as with our notion of body and the existence of the one as well as the other.

But whichever of these complex ideas be clearest that of body or immaterial spirit this is evident that the simple ideas that make them up are no other than what we have received from sensation or reflection and so is it of all our other ideas of substances even of God himself.

As we have already seen Hume and Kant deny metaphysics (so far as it is identified with what is traditionally natural theology) the status of a valid theoretical science. For them it is incapable of taking its place beside physics and mathematics. Hume in addition denies validity to metaphysical speculation concerning causes and substances in the natural order. Unlike Hume who simply removes metaphysi-

cal problems from the realm of questions worth thinking about Kant does not reject the problems but rather offers alternative methods of stating and solving them. He hopes thereby to accomplish a reformation rather than an abolition of metaphysical inquiry.

The existence of God freedom and immortality must be affirmed Kant thinks, in the order of practical not speculative reason. They are indispensable conditions of the necessary object of our will—that is to say conditions of the practical use of pure reason. Yet he adds we cannot affirm that we know and understand. I will not say the actuality but even the possibility of them.

Furthermore by redefining metaphysics to mean any system of knowledge *a priori* that consists of pure conceptions Kant not only gives his fundamental treatises in morals and ethics a metaphysical character but sees the possibility of a genuine metaphysic emerging from the *Critique of Pure Reason*. Once the dogmatism of metaphysics has been removed

that is the presumption that it is possible to achieve anything in metaphysics without a previous criticism of pure reason—it may not be too difficult to leave a bequest to posterity in the shape of a systematical metaphysic earned out according to the critique of pure reason.

Kant's transcendental philosophy and especially what he calls the architectonic of pure reason is in a sense that metaphysical ready begun. In subject matter if not in its method or conclusions it resembles the traditional inquiry concerning the universal principles and transcendental properties of being. The objects of natural theology are of course excluded as being beyond the power of reason to know in a speculative manner.

Metaphysics as a possible science is for Kant nothing more than the inventory of all that is given us by pure reason systematically arranged. Such a system of pure speculative reason he says in his original preface to the *Critique*. I hope to be able to publish under the title of *Metaphysic of Nature*. And in the last pages of the *Critique* wherein he criticizes all speculative efforts in the sphere of natural theology Kant reaffirms the speculative and the practical use of pure reason to constitute a *Metaphysic of Nature* and a *Metaphysic of*

things. The former he says is what is commonly called Metaphysic in the more limited sense. Both together form properly that department of knowledge which may be termed in the truest sense of the word philosophy. The path which it pursues is that of science when it has once been discovered is lost and never misleads.

CONTRADICTIONS ABOUT metaphysics can be distinguished from metaphysical contradictions—that is disputes within the field of metaphysical thought. We have confined our attention to the former throughout this chapter. But it may not be possible to judge much less to resolve the issues about the scope, methods and validity of metaphysics without engaging in or at least facing issues which are themselves metaphysical.

The only way to escape this would be to suppose that psychology (as an analysis of the powers of the mind) or epistemology (as a

theory of the criteria of valid knowledge) could determine in advance of any examination of metaphysical discussion whether the matters to be discussed fall within the range of questions concerning which the human mind has the power to find and validate answers. But if this supposition is untenable in itself or if it is untenable because psychology and epistemology when they are treated as the first philosophy themselves presuppose a metaphysics or conceal their metaphysical presuppositions, then no alternative remains but to judge metaphysics directly by its fruits.

In that case the issues surveyed in this chapter require an examination of the metaphysical discussions to be found in such chapters as GOD, ANGEL, IDEA, SOUL, IMMORTALITY, WILL (which are relevant particularly to the problems of natural theology) and (as relevant to other parts or problems of metaphysics) such chapters as BEING, CAUSE, FORCE, MATTER, ONE AND MANY, RELATION, SAME AND OTHER.

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## REFERENCES

To find the passages cited, use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HUMAN *Ibid.* bk. II [265-283] 12d the number 4 is the number of the volume in the set, the number 12d indicates that the passage is in section d of page 22.

**PAGE SECTIONS.** When the text is printed in one column, the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns, the letters a and b refer to the upper and lower halves of the left-hand side of the page, the letters c and d to the upper and lower halves of the right-hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left-hand side of page 163 and ends in the upper half of the right-hand side of page 164.

**AUTHOR'S DIVISION.** One or more of the main divisions of a work (such as PART BK CH SEC) are sometimes included in the reference. Line numbers in brackets are given in certain cases. e.g. *Ibid.* bk. II [265-283] 12d.

**BIBLE REFERENCES.** The references are to book, chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses, the King James version is cited first and the Douay, indicated by a (D) follows. e.g. OLD TESTAMENT *Nehemiah* 7.45—(D) *II Esdras* 7.46.

**SYMBOLS.** The abbreviation *et passim* calls the reader's attention to one or more especially relevant parts of a whole reference. *passim* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references, see the Explanation of Reference Style. For general guidance in the use of *The Great Ideas*, consult the Preface.

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- 8 ARISTOTLE *Physics* bk. I ch. 9 [193-33] 2j  
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- 9 ARISTOTLE *Ethics* bk. VI ch. 7 390a d
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- 2 The distinctive objects or problems of the supreme science
- 7 PLATO *Charmides* 7d 13d / *Republic* bk v 368c 373 k vi v 383d 398c esp bk vii 396d 398c / *Timaeus* 476a ff / *Sophist* 564d 574c / *Philbus* 633a 635a esp 634b 635a / *Seventh Letter* 809c 810d
- 8 ARISTOTLE *Physics* bk i ch 9 [192<sup>b</sup> 33<sup>b</sup>2] 268c d bk ii ch 2 [94<sup>b</sup>9-5] 271a ch 7 [198<sup>a</sup>22 31] 275b-c / *Heaven* bk iii h i [298<sup>b</sup>13 24] 390 b / *Metaphysics* bk i ch 1 499a 532d bk vi ch i bk vii e i 547b d 551a bk xi ch i-8 587 593d bk xii ch i 598 -c / *Sicily* bk i ch i [403<sup>b</sup>10-7] 632d
- 9 ARISTOTLE *Ethics* bk vi ch 7 390a d
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- 30 BACON *Advancement of Learning* 42c 46a 60b c / *Noum Organum* bk ii aph 9 140b c
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- 42 KANT *Pure Reason* 1a 4ac 6c d 19a 120b [in] 249 b / *Fundamental Principles of Metaphysics* of *Morals* 253a d / *Practical Reason* 351b 352 / *Intro. Metaphysics* f *Morals* 388a c / *Judgment* 603d 607 esp 606d 607
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- 8 ARISTOTLE *Topica* bk v ch 6 [27 6 4] 176d 177a / *Metaphysics* k iv ch 2 [33<sup>b</sup>19] 522b-c bk v ch 7 537 538b k v ch 6 [148 3<sup>b</sup>8] 573 574 k xi ch 3 589a d k xii ch 4-5 599d 601 / *Sicily* bk i i [4 3<sup>b</sup>] 632d
- 10 AQUINAS *Summa Theologiae* part i q 1 a 8 ns 7 8d q 1 a i 46d-47d q 3 a 5 66b 67d q 16 a 3 4 96b-97 q 48 a 2 r 2 260 261b q 85 a r 2 451-453
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- 53 JAMES *Psychology* 884b
- 2c The method of metaphysics is the distinction between empirical and transcendental methods
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(2 *The analysis of the highest human science the character of dual ethical metaphysical or transcendental knowledge*)

2d The distinction between a metaphysic of nature and a metaphysic of morals the difference between the speculative treatment and the practical resolution of the metaphysical problems of God freedom and immortality

42 Kant *Pure Reason* 5a d 15c 16c 33a d 120b [fn 1] 124d 128a 143a 145c 152a 153c 164a 171a esp 169c 170a 170c 171a 177b 192d esp 177b 179c 200c 209d 218d 223d 234c 240b esp 239a = 241d 242c 246a 250a c / *Fund Princ Metaphysic of Morals* 253a d 263d 264d 277d 287d esp 277d 279d 283d 285a / *Practical Reason* 291a 293c esp 292a 293b 296a d 301d 302d 307d 314d 331a 337a = 340a 342d 344a 349b esp 344a c 348b 349b 351b 352 353a 354d / *Intro Metaphysic of Moral* 386b 388d esp 386d 387a c 388a d 390b d 391a / *Judgement* 568c 570a 588a 613a = passim esp 607c 609b 610a

3 Metaphysics in relation to other disciplines

3a The relation of metaphysics to theology

III AUGUSTINE *City of God* bk viii ch 1 12 264b d 273a / *Christian Doctrine* bk ii ch 40 655b 656a

19 AQUINAS *Summa Theologiae* PART I Q 1 3a 10c esp 1 3b-4a aa 4-6 5a 7a A 8 7c 8d Q 2 A 2 esp REP 11d 12c Q 12 aa 12 13 60d 62b Q 32 A 1 175d 178a Q 39 aa 7-8 209a 213a Q 46 A 2 253a 255a Q 84 A 5 446c-447c

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23 HOBBS *Leviathan* PART I 83b 84a PART II 163a b PART III 165b PART IV 247d 269b 271c

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46 HEGEL *Philosophy of History* INTRO 158c 160b PART III 308c 309d

3b The relation of metaphysics to mathematics physics or natural philosophy psychology and the empirical sciences

7 PLATO *Republic* bk vi vii 386d 398c / *Phaedrus* 634b 635b / *Seventh Letter* 809c 810a

8 ARISTOTLE *Physics* bk I ch 9 [192 33 32] 268c d bk II ch 2 [94<sup>9</sup> 15] 271a ch 7 [198<sup>22</sup> 31] 275b c / *Elements* bk III ch 1 [208<sup>13</sup> 24] 390a b / *Metaphysics* bk I ch 8 [98<sup>29</sup> 29-99<sup>0</sup> 8] 508a ch 9 [99<sup>2</sup> 24 9] 510c d bk II ch 3 [99<sup>4</sup> 32] bk III ch 2 [99<sup>7</sup> 31] 513c 516a bk IV ch 1 3 522a 525a bk VI ch 1 547b d 548c bk VI ch 1 587a 588a ch 3 [1061<sup>29</sup> 29]-ch 4 [1061<sup>34</sup> 34] 589c 590a ch 7 592b-593a bk VII c 1 [1069 30-32] 593b c ch 8 [1073<sup>1</sup> 1-7] 603d / *Soul* bk I c 1 [103<sup>1</sup> 10 17] 632d

11 NICO MACHUS *Arithmetica* bk I 812b 813d

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- 4a. The dismissal or satirization of metaphysics as dogmatism or sophistry
- 23 HOBBS *Leviathan* PART I 49d 52a ■ 54b-56b d 57c d 59a 60a 71a b 80b 84a PART II 163a ■ PART III 183c d PART IV 247d 267a 272b 274a b 276c
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- Philosophy 2b SCIENCE 1a(2) THEOLOGY 3a WISDOM 1a
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- Considerations relevant to the nature of metaphysical concepts or abstractions see BEING 1 DEFINITION 6a IDEA id 2g 4b(4) MEMORY and IMAGINATION 6d SIGN and SYMBOL 3d
- The method or character of metaphysical thought see KNOWLEDGE 6c(4) LOGIC 4d PHILOSOPHY 3a-3b REASONING 6a TRUTH 4c
- The relation of metaphysics to theology see KNOWLEDGE 6c(5) THEOLOGY 2 3a 4a WISDOM 1a 1c and for the relation of metaphysics to mathematics and physics see MATHEMATICS 1a NATURE 4b PHILOSOPHY 2b PHYSICS 1a SCIENCE 1a(2)
- The problem of principles common to metaphysics and logic see PRINCIPLE 1c and for the statement of the law of contradiction see OPPOSITION 2a
- Criticisms of metaphysics and for the substitution of psychology or epistemology for metaphysics as the first philosophy see DIALECTIC c 3c ■ KNOWLEDGE 5d-5e MAN 2b(4) PHILOSOPHY 3d 6b SOUL 5a THEOLOGY 5
- Considerations relevant to a metaphysics of morals and for the solution therein of the problems of God freedom and immortality see GOD and IMMORTALITY 3a NECESSITY AND CONTINGENCY 4b PHILOSOPHY 2a WILL 5b(4)



## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups:

- I Works by authors represented in this collection
- II Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

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## Chapter 58 MIND

### INTRODUCTION

**I**n the tradition of the great books the word mind is used less frequently than reason intellect understanding or soul. There are still other words like intelligence consciousness and even spirit or psyche which often carry some part of the connotation of the word mind. Certain authors use mind as a synonym for one or another of these words and give it the meaning which other writers express exclusively in terms of reason or understanding. Some discuss mind without reference to soul, some identify mind with soul or spirit and some conceive mind as only a part of soul or spirit.

For the purpose of assembling in a single chapter references to all discussions which fall within the area of meaning common to all these terms it was necessary to adopt some single covering word. Our choice of mind is partly the result of its present currency partly the result of the fact that it is somewhat more neutral than the others and therefore less prejudicial to the conflicting theories which are juxtaposed in this chapter.

Words like reason or intellect usually imply a sharper distinction between the functions or faculties of sensation and thought than does the word mind. Imagination and memory for example are attributed to the understanding in the writings of Locke and Hume whereas in the analytical vocabulary of Aristotle and Aquinas imagination and memory belong to sense not to reason or intellect. Similarly words like soul or spirit usually connote a substantial as well as an immaterial mode of being whereas mind can have the meaning of a faculty or a power to be found in living organisms.

The adoption of the word mind is purely a matter of convenience. It begs no questions and decides no issues. The relations between

what is here discussed and the matters considered in the chapters on SOUL, SENSE, MEMORY AND IMAGINATION remain the same as they would be if reason or intellect were used in place of mind. Different formulations of these relationships are not affected by the words used but by different theories of what the mind is however it is named.

Before we consider the diverse conceptions of the human mind which are enumerated under the seven main divisions of the first section in the Outline of Topics it may be useful to examine the elements of meaning more or less common to the connotation of all the words which mind here represents. Even here we must avoid begging the question whether mind is a peculiarly human possession. Other animals may have minds. Mind may be as it is on one theory a universal property of matter according to another theory there may be superhuman minds or intelligences or a single absolute mind a transcendent intelligence.

What then does the universe contain because there is mind in it which would be lacking if everything else could remain the same with mind removed? The facts we are compelled to mention in answering this question should give us some indication of the elements of meaning common to mind and all its synonyms.

FIRST IS THE FACT of thought or thinking. If there were no evidence of thought in the world mind would have little or no meaning. The recognition of this fact throughout the tradition accounts for the development of diverse theories of mind. None of the great writers denies the phenomenon of thought however differently each may describe or explain it none therefore is without some conception of mind.

It may be supposed that such words as thought or thinking cannot because of their own ambiguity help us to define the sphere of mind. But whatever the relation of thinking to sensing, thinking seems to involve more—for almost all observers—than a mere reception of impressions from without. This seems to be the opinion of those who make thinking a consequence of sensing, as well as of those who regard thought as independent of sense. For both thinking goes beyond sensing either as an elaboration of the materials of sense or as an apprehension of objects which are totally beyond the reach of the senses. To the extent that this insight is true, the elements or aspects of thought discussed in the chapters on *Intellect*, *Judgment* and *Reasoning* have an obvious relevance to the various theories of mind discussed in this chapter.

THE SECOND FACT which seems to be a root common to all conceptions of mind is that of knowledge or knowing. This may be questioned on the ground that if there were sensation without any form of thought, judgment or reasoning, there would be at least a rudimentary form of knowledge—some degree of consciousness or awareness by one thing of another. Granting the point of this objection, it nevertheless seems to be true that the distinction between truth and falsity and the difference between knowledge, error and ignorance or knowledge, belief and opinion do not apply to sensations in the total absence of thought. The chapter on *Knowledge* reports formulations of these distinctions or differences. Any understanding of knowledge which involves them seems to imply mind for the same reason that it implies thought.

There is a further implication of mind in the fact of self-knowledge. Sensing may be awareness of an object and to this extent it may be a kind of knowing, but it has never been observed that the senses can sense or be aware of themselves. Take for example definitions of sense or theories of sensation and the objects of sense. Such definitions and theories must be regarded as works of reflective thought; they are not products of sensation.

Thought seems to be not only reflective, but reflective that is able to consider itself to de-

fine the nature of thinking and to develop theories of mind. This fact about thought—its reflexivity—also seems to be a common element in all the meanings of mind. It is sometimes referred to as the reflexivity of the intellect or as the reflexive power of the understanding or as the ability of the understanding to reflect upon its own acts or as self-consciousness. Whatever the phrasing, a world without self-consciousness or self-knowledge would be a world in which the traditional conception of mind would probably not have arisen.

THE THIRD FACT is the fact of purpose or intention of planning a course of action with foreknowledge of its goal or working in any other way toward a desired and foreseen objective. As in the case of sensitivity, the phenomena of desire do not without further qualification indicate the realm of mind. According to the theory of natural desire, for example, the natural tendencies of even inanimate and insentient things are expressions of desire. But it is not in that sense of desire that the fact of purpose or intention is here taken as evidence of mind.

It is rather on the level of the behavior of living things that purpose seems to require a factor over and above the senses, limited as they are to present appearances. It cannot be found in the passions which have the same limitation as the senses, for unless they are checked, they tend toward immediate emotional discharge. That factor called for by the direction of conduct to future end is either an element common to all meanings of mind or is at least an element associated with mind.

It is sometimes called the faculty of will, volitional desire or the intellectual appetite. Sometimes it is treated as the act of willing which along with thinking is one of the two major activities of mind or understanding and sometimes purposiveness is regarded as the very essence of mentality. Considerations relevant to this aspect of mind are discussed in the chapter on *Will*.

THESE THREE OR FOUR FACTS—thought and knowledge or self-knowledge and purpose—seem to be common to all theories of mind. More than that, they seem to be facts which require the

development of the conception. They are for the most part not questioned in the tradition of the great books but they are not always seen in the same light. They are not always related in the same way to one another and to other relevant considerations. From such differences in interpretation and analysis arise the various conflicting conceptions of the human mind.

The conflict of theories concerning what the human mind is, what *structure* it has, what parts belong to it or what *whole* it belongs to, does not comprise the entire range of controversy on the subject. Yet enough is common to all theories of mind to permit certain other questions to be formulated.

How does the human mind operate? How does it do whatever is its work and with what intrinsic excellences or defects? What is the relation of mind to matter, to bodily organs, to material conditions? Is mind a common possession of men and animals, or is whatever might be called mind in animals distinctly different from the human mind? Are there minds or a mind in existence apart from man and the whole world of corporeal life?

Such questions constitute the major topics of this chapter. Other topics which appear here, such as the moral and political aspects of mind, are reserved for discussion in the many other chapters devoted to the great ideas of moral and political thought. Still others like the problem of insanity—the loss or derangement of mind—are obviously relevant here even though the more general consideration of psychopathology belongs elsewhere, e.g. in the chapter on Medicine.

The intelligibility of the positions taken in the dispute of the issues which are here our major concern depends to some degree on the divergent conceptions of the human mind from which they stem. It seems necessary therefore to examine the seven notions of mind which appear in the great books. This will at least provide the general context for the reader's further explorations, even if it is not possible to trace the implications each of these notions may have for the great controversial issues.

Seven is of course a fiction of analysis. There are from one point of view more—perhaps as many as there are among the great authors

thinkers who have dwelt at length on the subject. From another point of view there may be fewer than seven, for when the lines are drawn according to certain basic differences, several of these theories appear to be variants of a single doctrine.

THAT IN THE SOUL which is called mind Aristotle writes is that whereby the soul thinks and judges. For him as for Plato the human intellect or reason is a part or power of the soul of man, distinct from other parts or faculties such as the senses and the imagination, desire and the passions. Though the human soul is distinguished from the souls of other living things by virtue of its having this part or power and is therefore called by Aristotle a rational soul, these writers do not identify mind and soul. As soul is the principle of life and all vital activities, so mind is the subordinate principle of knowledge and the activities of thinking, deliberating, deciding.

Within the general framework of this theory many differences exist between Plato and Aristotle and between them and others who share their views. These differences arise not only with respect to the soul of which the intellect is a part, but also with respect to the power or activity of the intellect itself. For example, the distinction which Aristotle initiates between mind as an active and as a passive power is more explicitly formulated by Aquinas in his theory of the active intellect and the intellect as potential.

The human intellect Aquinas writes is in potentiality to things intelligible and is at first like a clean tablet on which nothing is written, as the Philosopher says. This is made clear from the fact that at first we are only in potentiality towards understanding, and afterwards we are made to understand actually. And so it is evident that with us to understand is in a way to be passive. But the forms of things or what Aquinas calls their intelligible species are not actually intelligible as they exist in material things. He therefore argues that in addition to the power receptive of such species which is called the possible intellect by reason of its being in potentiality to such species, there must also be another intellectual power which he calls the active or agent intellect.

Nothing he says can be reduced from potentiality to act except by something in act or already actual. We must therefore assign on the part of the intellect some power to make things actually intelligible by the abstraction of the species from material conditions. Such is the necessity for positing an agent intellect.

The more explicit formulation which Aquinas gives of the distinction between the active and the possible intellects as distinct powers has further consequences for the analysis of three states of the passive or possible intellect distinguished by Aristotle. The intellectual power which is receptive of the intelligible species may either be in complete potentiality to them as it is when it has not yet come to understand certain things. Or it may be described as in habitual possession of the intelligible species when it has previously acquired the understanding of certain things but is not now actually engaged in understanding them. In the third place the potential intellect may also be actual or in act whenever it is actually exercising its habit of understanding or is for the first time actually understanding something.

In this traditional theory of mind many other distinctions are made in the sphere of mental activity but none is thought to require a division of the mind into two distinct powers or even to require the discrimination of several states of the same power. Just as Plato regards the intuition or direct apprehension of intelligible objects as an activity of the same intelligence which is able to reason discursively about the ideas it can contemplate so Aristotle and Aquinas assign three different activities to the intellectual power which apprehends intelligible objects not by intuition but only as the result of the abstraction of forms from matter by the active intellect.

Once the possible intellect is actualized by the reception of the abstracted species it can act in three ways. It can express in concepts the species which have been impressed upon it. This—the first act of the intellect—is conception. Its second and third acts—of judgment and of reasoning—consist in forming propositions out of concepts and in seeing how one proposition follows from others in inference or proof.

Unlike abstraction and conception which

Aquinas assigns to the active and the possible intellect respectively conception judgment and reasoning do not in his opinion require distinct powers. Nor do the two kinds of thought or reasoning which Aquinas calls speculative and practical. The speculative and practical intellects he maintains are not distinct powers for they differ only in their ends. The speculative intellect directs what it apprehends not to operation but to the sole consideration of truth the practical intellect directs what it apprehends to operation or action. But to the nature of intellect as a power of apprehension it is accidental whether it be directed to operation or not.

NOT ALL THE foregoing distinctions are made or made in the same way by Plato Aristotle and other authors like Plotinus Augustine or Aquinas who stand together in regard to mind as only a part of the human soul. Lucretius belongs with them on this point though he differs radically from them on the issue of mind and matter. Mind for him is only the directing principle of the soul the head so to speak and reigns paramount in the whole body. It is only the thinking or deciding part of the soul. But Plato Aristotle and their followers make a distinction in kind between sensations or images and universal ideas or abstract concepts. Sense and intellect are for them distinct faculties of knowing and have distinct objects of knowledge. For Lucretius on the other hand thinking is merely a reworking of the images received by the senses. In this one respect at least Lucretius is more closely associated with the theory of mind to be found in Hobbes, Locke and Hume.

In the consideration of mind agreement on one point seems everywhere to be accompanied by disagreement on another. Locke does not agree with Lucretius or Hobbes about the materiality of mind and though he agrees with Berkeley that mind is a spiritual entity he does not agree with him any more than he agrees with Hobbes and Hume about the abstraction of general concepts from particular sense impressions. Plato and Aristotle agree that the senses and the intellect or reason are quite distinct but they do not agree about the relation of these faculties especially not on the extent

to which the mind can act independently of sense and imagination. Augustine seems to share Plato's doctrine of reminiscence — an account of how the senses recall actively to mind ideas it has always somehow possessed. Aquinas adopts Aristotle's doctrine of abstraction as the quite contrary account of the role the senses play in providing the materials on which the mind works to obtain ideas. But Augustine and Aquinas come together on another point in which they depart alike from Aristotle and Plato. They distinguish with precision between the intellect and will as separate faculties of the soul, whereas Plato and Aristotle treat thinking and willing (for knowing and loving) as merely diverse aspects of mental life.

THE SAME SITUATION prevails with respect to the other theories of mind which we must now consider in their own terms. Descartes for example resembles Plato and Augustine on the point on which we have seen that they together differ from Aristotle and Aquinas, namely the relation of mind or reason to the senses or imagination. Yet he is also closer to Aristotle and Plato in a respect in which they together differ from Augustine and Aquinas, namely in regarding thinking and willing as acts of the mind rather than as belonging to completely separate faculties.

These agreements and differences occur in the context of a basic opposition between Descartes and all the other writers so far mentioned. Unlike all of them, he identifies the human mind with the rational soul of man. In the dual nature of man, he says, there are certain activities which we call corporeal, e.g. magnitude, figure, motion, and all those that cannot be thought of apart from extension in space, and the substance in which they exist is called body. Further, there are other activities which we call thinking activities, e.g. understanding, willing, imagining, feeling, etc., which are in falling under the description of thought, perception, or consciousness. The substance in which they reside we call a thinking thing or the mind, or any other name we care provided only we do not confound it with corporeal substance, since thinking activities have no affinity with corporeal activities and thought, which is the common nature in which

the former agree, is totally different from extension. The common term for describing the latter, Descartes denies that brutes possess thought, but even though I were to grant he says that thought existed in them, it would in no wise follow that the human mind was not to be distinguished from the body, but on the contrary that in other animals also there was a mind distinct from their body.

The two components of human nature are according to Descartes each of them substances — a *res cogitans* or a thinking substance and a *res extensa* or an extended substance. Descartes uses the phrases rational soul and mind interchangeably. Reason or intellect — the capacity to think — is not a power of the soul. Nor is thinking an act which the soul sometimes performs, sometimes does not. It is the very essence of the soul itself, even as extension is the essence of body. Just as bodies cannot exist without actually having three dimensions, so the mind cannot exist without thinking.

Though it is literally translated into English by *I think, therefore I am*, Descartes' *cogito ergo sum* can be rendered by *Thinking is, therefore, the mind is*, or by the strictly equivalent statement *The mind exists, therefore, there is thinking*. It is precisely this equation of the mind's existence with the activity of thought which Locke challenges.

We know certainly by experience, he writes, that we sometimes think, and thence draw this infallible consequence that there is something in us that has the power to think, but whether that substance perpetually thinks or not we can be no farther assured than experience informs us. I grant that the soul in a waking man is never without thought, because it is the condition of being awake, but whether sleeping without dreaming be not an affection of the whole man, mind as well as body, may be worth a waking man's consideration. Methinks every drowsy nod shakes their doctrine who teach that the soul is always thinking.

What is striking about this disagreement is that Locke and Descartes agree in the conception of man as a union of two distinct substances — the union of a material substance or body with a spiritual substance, a mind or soul. It is not surprising, however, that they

should hold the Cartesian view against Locke. Considering the flow of time in terms of the succession of ideas Berkeley affirms it to be a plain consequence that the soul always thinks. To try to abstract the existence of a spirit from its cogitation is he adds modestly no easy task. He might have said it is impossible for since he holds that bodies do not exist and that man consists of mind or spirit alone he need not hesitate to assert that the mind cannot cease to think without ceasing to be. Neither he nor Descartes is in James' opinion free to take the appearances for what they seem to be and to admit that the mind as well as the body may go to sleep.

Despite these differences Descartes, Locke and Berkeley seem to agree on the range of activities within the sphere of mind. The mind is a thinking substance for Descartes yet it also senses and imagines, suffers passions and exercises acts of will. What Descartes says in terms of acts Locke says in terms of powers. Mind has many distinct powers among which Locke includes all the cognitive faculties (not only the powers of abstract thought and reasoning but also those of sense and imagination) and such voluntary faculties as choosing and willing. Berkeley also includes the whole range of psychological phenomena—sensation, imagination, memory, the passions, reasoning and choice.

Hume takes a similar view though in his case one basic qualification must be added. He does not conceive the mind as a soul or a spirit or any other sort of substance. He even has some difficulty with the notion of its continuity or identity from moment to moment in the flow of experience. Yet he says it cannot be doubted that the mind is endowed with several powers and faculties that these powers are distinct from each other. There are many obvious distinctions of this kind such as those between will and understanding, the imagination and the passions which fall within the comprehension of every human creature. What the mind is or how it exists we may not be able to say but Hume thinks that if we can go no farther than this mental geography or delineation of the distinct parts and powers of the mind it is at least a satisfaction to go so far.

Descartes' theory of mind seems to serve as a point of departure in another direction from

that taken by Locke. Spinoza agrees that the mind is a thinking thing. He agrees that man consists of an individual body united with an individual mind. But he differs from Descartes on the meaning of substance. By its very nature substance is infinite and because it is infinite there can be only one substance which is God. Finite individual things whether bodies or minds do not exist as substances but as modes of the divine attributes.

The human mind is a part of the infinite intellect of God and therefore Spinoza declares when we say that the human mind perceives this or that thing we say nothing less than that God has this or that idea. He includes love and desire as well as perception and imagination among the affections of the mind even calling them modes of thought. He adds however that these do not exist apart from the idea of the thing loved or desired.

though the idea may exist although no other mode of thinking exist.

OF THE REMAINING three of the seven conceptions of mind here being considered two bear certain resemblances to theories already mentioned.

Hegel's view of the human mind as a phase or dialectical moment of the Absolute Mind or Spirit seems comparable to Spinoza's conception of the human mind as a part of God's infinite intellect. The Hegelian theory of mind developed in such works as the *Phenomenology of Mind* and the *Philosophy of Mind* is reflected in his *Philosophy of History* and in his *Philosophy of Right*. The expression of his view of mind appears therefore in the chapters on History and State as well as here.

There seems to be similar justification for associating the views of William James with those of Locke and Hume. Willing to posit a soul influenced in some mysterious way by the brain states and responding to them by conscious affections of its own James goes on to say that the bare phenomenon however the immediately known thing which on the mental side is in apposition with the entire brain process is the state of consciousness and not the soul itself.

What the soul is and whether it exists belong to metaphysics. So far as psychological obser-

vation and analysis are concerned the phenomena of mind are to be found in the stream of thought or consciousness. States of mind are states of consciousness. James uses the words feeling or thought to cover every type of mental operation every state of mind every form of consciousness including sensations and emotions desires and wishes as well as conception and reasoning.

Locke and Hume distinguish powers of the mind according to different types of mental operation. James tends rather to analyze the mind in terms of its diverse states according to different types of mental content. But he also lays great stress on the dynamic interconnection of the various elements of consciousness in the continuous flow of the stream of thought.

Freud too presents an analysis of different types of mental content and accompanies it by a theory of the different layers of mind—or psychic structure. He holds for example that we have two kinds of unconscious—that which is latent but capable of becoming conscious and that which is repressed and not capable of becoming conscious in the ordinary way. That which is latent and only unconscious in the descriptive and not in the dynamic sense we call *preconscious*; the term unconscious we reserve for the dynamically unconscious repressed so that we have three terms: conscious (Cs), *preconscious* (Ps) and unconscious (Ucs).

Like James Freud is concerned with the dynamic interaction of various mental operations or contents. In addition a further point of similarity exists between them. James says that the pursuance of future ends and the choice of means for their attainment are the mark and criterion of the presence of mentality. No actions but such as are done for an end and show a choice of means can be called indubitable expressions of Mind. Freud goes further in the same direction. By identifying psychic energy in general with what he calls *libido* he implies that mind in its most primitive form has entirely the aspect of desire or seeking. It expresses itself in two fundamentally different kinds of instincts: the sexual instincts in the widest sense of the word and the aggressive instincts whose aim is destruction.

FINALLY THERE IS the theory in which mind is neither one of the faculties of the soul nor is itself a thinking substance nor is it a soul or spirit with a diversity of powers. All our knowledge Kant writes begins with sense proceeds thence to understanding and ends with reason beyond which nothing higher can be discovered in the human mind for elaborating the matter of intuition and subjecting it to the highest unity of thought. These three faculties have distinct functions for Kant. The sensitive faculty is a faculty of intuition. The faculty of understanding is a faculty of judgment and scientific knowledge. The faculty of reason when properly employed performs a critical and regulative function in the realm of thought but when employed beyond the province of its power leads thought into blind alleys or dialectical frustrations.

Mind is not one of these faculties nor is it the being in which these faculties inhere. The notion of mind seems to have significance for Kant primarily in a collective sense. It represents the unity and order of the triad of cognitive faculties. The faculties of feeling and will—which Kant adds to these in his enumeration of the higher faculties—belong to the transcendental ego but they do not fall within that part of the transcendental structure which is mind. Kant's distinction between the speculative and the practical use of reason and his distinction between the moral and the aesthetic judgment involve different relationships between mind—or its triad of faculties—and these other faculties.

THE FOREGOING SURVEY of conceptions of the human mind gives some indication of the way in which other questions about mind are answered.

With regard to the relation of mind and matter for example the theories of Descartes, Spinoza, Locke and James seem to affirm a duality of substances or of modes of substance or at least of realms—the physical and the mental. They are confronted by the problem of the relation which obtains between the two—their independence or interaction.

"Mental and physical events," writes James, "are on all hands admitted to present the strongest contrast in the entire field of being."



The chasm which yawns between them is less easily bridged over by the mind than any interval we know. Why then not call it an absolute chasm, he asks, and say not only that the two worlds are different but that they are in dependent?

James thinks that to urge this theory of the complete independence of mind and body is an *unarrantable impertinence in the present state of psychology*. He prefers the common sense theory that each acts on the other somehow. But earlier writers who consider body and mind as distinct substances find grave difficulties in the way of conceiving their interaction. How our minds move or stop our bodies by thought which we every moment find they do is according to Locke *obscure and inconceivable*. According to Hume there is no principle in all nature more mysterious than the union of soul with body. He interprets one consequence of the union to be that a supposed spiritual substance acquires such an influence over a material one that the most refined thought is able to actuate the grossest matter. Were we empowered by a secret wish to remove mountains or control planets in their orbit this extensive authority, Hume thinks, would not be more extraordinary nor more beyond our comprehension.

Denying that bodies exist Berkeley nevertheless argues that even if they did they could exert no influence upon mind. Though we give the materialists their external bodies he says they by their own confession are never the nearer knowing how our ideas are produced since they own themselves unable to comprehend in what manner body can act upon spirit or how it is possible that it should imprint any idea in the mind. Hence it is evident that the production of ideas or sensations in our minds can be no reason why we should suppose matter or corporeal substances since that is acknowledged to remain equally inexplicable with or without this supposition.

Those who deny the existence of matter like Berkeley or the existence of anything immaterial like Lucretius or Hobbes are confronted by problems of their own. Berkeley must explain the mind's perception of bodies or why the mind thinks of matter. Lucretius must explain perception, thought and choice

as function of material particles in motion.

The reduction of mind to matter raises a question which leads in the opposite direction. Why may it not be supposed that thought and feeling are present in the universe wherever matter is—an atom of mind inseparably conjoined with every atom of matter as in the *mind stuff* or *mind dust* theory which William James considers and criticizes? Still another formulation of the relation of mind to matter is found in the theory of Aristotle and Aquinas according to whom the rational soul is the substantial form of an organic body; but the intellect—one of its powers—is not united to matter in any way. Mind is said to be immaterial in that understanding or thought does not require a bodily organ.

The angelic intellect according to Aquinas is a cognitive power which is neither the act of a corporeal organ nor in any way connected with corporeal matter. The human mind is not so completely divorced from matter for though man's intellect is not the act of an organ yet it is a power of the soul which is the form of the body. Among all bodily forms the human soul alone has the distinction of possessing an operation and a power in which corporeal matter has no share whatever. But Aquinas also maintains that the body is necessary for the action of the intellect not as its organ of action but on the part of the object—the phantasm or image produced by the sensitive faculty. He conceives this dependence in the following manner. For the intellect to understand actually there is need for the act of the imagination and of the other powers that are acts of bodily organs. When the act of the imagination is hindered by a lesion of the corporeal organ for instance in a case of frenzy or when the act of the memory is hindered as in the case of lethargy we see that a man hindered from understanding actually even those things of which he had a previous knowledge.

The problem of body and mind is discussed more fully in the chapter on MATTER. Other problems involved in the theory of mind's materiality occur in other chapters as well as in this one e.g. the problem of mind in animals and men (in the chapters on ANIMAL and MAN) the problem of the existence of minds superior to that of man (in the chapters on ANGEL and

God) the problem of the origin of ideas in the human mind (in the chapters on IDEA and MEMORY AND IMAGINATION). It should be noted however that agreement or disagreement on the nature of the human mind does not always determine agreement or disagreement with respect to these other questions.

Sharing the view that the mind is a spiritual substance, Locke and Descartes do not agree about innate ideas or principles. Locke tends to agree with Aristotle when he says that the mind is a *tabula rasa*—void of all characters without any ideas. How comes it to be furnished? he asks. Whence has it all the *materials* of reason and knowledge? To this I answer in one word from *Experience*. In that all our knowledge is founded and from that it ultimately derives itself. Our observation employed either about external sensible objects or about the internal operations of our own minds is that which supplies our understandings with all the *materials* of thinking.

But Locke does not accept Aristotle's sharp distinction between the faculties of sense and

reason nor does he find it necessary to adopt Aristotle's notion of an active intellect to explain how the mind abstracts general ideas from the particulars of sense perception. So far as his theory attributes to mind the power of sense, Locke has more affinity with Berkeley and Hume than with Aristotle. Yet on the question of abstract ideas or the distinction between men and brutes he is much opposed to them as they are to Aristotle.

These few observations may be taken as a sample of the many intricately crossing lines of thought which make the complex pattern of the traditional discussion of mind. With few exceptions almost any other choice of authors and topics would provide similar examples. That fact combined with the fact that almost every major topic in this chapter leads into the discussion of other great ideas tends to make the chapter on MIND a kind of focal point for perspective on the whole world of thought. It is not surprising that this should be the case for on any theory mind is somehow the place of ideas or as Aristotle says—the form of forms.

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(1) The difference between the acts of sensing and understanding and the objects of sense and reason

(2) The cooperation of intellect and sense—the dependence of thought upon imagination and the direction of imagination by reason

(3) The functioning of intellect—the acts of understanding, judgment and reasoning

(4) The distinction of the active and the possible intellect in power and function

1b Mind as identical with thinking substance

(1) The relation of the mind as thinking substance to sense and imagination

(2) Thinking and willing as the acts of the thinking substance

1c Mind as a particular mode of that attribute of God which is thought

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(2) The properties of the human mind as a mode of thought

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**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 3 *JANES Psychology* 116a 116b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left-hand side of the page the letters c and d to the upper and lower halves of the right-hand side of the page. For example in 7 *PLATO Symposium* 163b 164c the passage begins in the lower half of the left-hand side of page 163 and ends in the upper half of the right-hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* bk ii [265-83] 12d.

**BIBLE REFERENCES.** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verse the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) II *Esdra*s 7 46.

**SYMBOLS.** The abbreviations esp calls the reader's attention to one or more especially relevant part of a whole reference *passim* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

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21 *DANTE Divine Comedy PURGATORY* xiv [61-84] 92a b

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- 20 AQUINAS *Summa Theologiae* PART I Q 50  
A 3 REP 3 8b 9a A 4 REP 1 3 9a 10b Q 51  
A 1 ANS 12b 13c 52 A 1 ANS 15d 18a  
Q 56 A 5 ANS 33c 34b PART III Q II A 2  
773a d

### 1a(3) The functioning of intellect the acts of understanding judgment and reasoning

- 7 PLATO *Phaedrus* 228a 230c / *Republic* BK VII  
392a 394a / *Theaetetus* 535a 536b 537d 538a  
8 ARISTOTLE *Categories* CH 4 [24-10] 6a /  
*Interpretation* CH I [69-18] 25a b / *Prior*  
*Analytics* K I CH 1 39a d / *Metaphysics* K  
VI CH 4 [1027<sup>b</sup> 18 8] 550 c BK IX H 10  
577c 578a / *Soul* BK I CH 3 [4 7 25 33]  
636d 637a BK III CH 6 662d 663c
- 12 LUCRETIVUS *Nature of Things* K IV [353-52]  
48d 51a esp [469-521] 50b 51a
- 17 PLOTINUS *Third Ennead* TR VI CH 2 107b-c
- 18 AUGUSTINE *Confessions* BK III par 23 120d  
121a / *Christian Doctrine* K I CH 31 651d  
652b
- 19 AQUINAS *Summa Theologiae* PART I Q 13  
A 9 AN 71b 72c H 4 A 7 ANS 81d 82b Q  
46 A 2 REP 3 253a 255a Q 58 A 3 301d  
302d A 4 ANS 302d 303c Q 59 A 1 REP 1  
306c 307b Q 79 AA 8-9 421 423d A  
REP 2-3 423d 424d Q 82 A 4 REP 434c  
435 Q 84-89 440b 480c PART I Q I A  
4 RE 612a 613a Q 4 RE 1 636d 637c  
Q 15 A 4 REP 1 683b 684a Q 16 A 1 REP 3  
684b-d
- 20 AQUINAS *Summa Theologiae* ART II Q 90  
A REP 2 205b 206b P RT II-II Q I A 2  
R P 2 381 c Q 8 A R 2 417a d Q 18  
A 6 613 614d PART III Q II A 3 773d  
774c P R SUPPL Q 9 A 1 AN 1025  
1032b
- 30 BACON *Advancement of Learning* 32d 56b  
59b 61d esp 59c / *Nocturnal Image* BK I  
A 1 48 110d 111a
- 1a(4) The distinctness of the act and the  
possible intellect in power and function
- 8 ARISTOTLE *Soul* BK III H 4-5 661b 662d
- 19 AQUINAS *Summa Theologiae* PART I Q 54  
A R 1 285a d A 4 287b 288a Q 55 A  
REP 289d 290d Q 9 AA 5 414d 419b  
Q 84 A 4 AN nd REP 3 444d-446b A 6 447c  
449 Q 85 A 1 451 453c Q 87 A 4 465a-466c  
Q 88 A 1 N nd R 2 469-471 Q 17  
A 595d 597
- 20 AQUINAS *Summa Theologiae* PART II Q 5  
A 4 9 10b A 5 R P 1 2 10b d Q 67 A 2  
AN 82c 83b PART Q 9 A ANS 763b  
764 AA 3 4 765b 767b H 12 A AN nd  
REP 3 776c 777b RT III SUP L Q 9 A 3  
R 1034b 1037
- 31 SIBTHORPE *Ethics* P RT I ROP 3 SCHOL 366d  
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(1) *Diverse conceptions of the human mind*

## 1b Mind = identical with thinking substance

- 31 DESCARTES *Discourse* PART IV 51d 52a PART V 56a b / *Meditations* 71b d II 77d 81d IV 89b VI 98c d / *Objections and Replies* 114d 115a c DEF VI VII 130c d PROP IV 133c 135b 136b 152b d 156a 207a 208c d 209c 224d 225d 248b 249d 250b 261a b 276b c
- 35 LOCKE *Human Understanding* BK II CH I SECT 9-25 123a 127d CH XIX SECT 4 176a b
- 35 BERKELEY *Human Knowledge* SECT 2 413b SECT 26-27 418a b SECT 98 432a SECT 135 142 440a 441c passim
- 51 JAES *Psychology* 130b 131a 221a 226a esp 221a 222b

## 1b(1) The relation of the mind as thinking substance to sense and imagination

- 31 DESCARTES *Rules* VIII 13a b 14b XII 18b c 20a c XIV 28a 33b passim / *Discourse* PART I 41d PART IV 53b PART V 59a 60c / *Meditations* II 77d 81d VI 96b 103d esp 96b 98c 99d 101a / *Objections and Replies* DEF I II 130a b POSTULATE II 131a 136d 137a 137d 207d 208a 209c 215b c 218c d 224d 225d 229d 230
- 35 BERKELEY *Human Knowledge* SECT 2 413b SECT 138 139 440c d

## 1b(2) Thinking and willing as the acts of the thinking substance

- 31 DESCARTES *Rules* III 3b 5a XI 17b-18b XIV 28a 33b passim / *Meditations* III 81d 89a esp 81d 82a IV 89a 93a passim VI 101d 102a / *Objections and Replies* DEF I II 130a b 137d 162b 170d 218c d
- 35 BERKELEY *Human Knowledge* SECT 2 413b SECT 26-28 418a c SECT 138 139 440c d

## 1c Mind as a particular mode of that attribute of God which is thought

- 31 SPINOZA *Ethics* PART I PROP 14 359d 360a PROP 25 COROL 365b PRO 29-31 366b 367a PART II AXIOM 2 373d PROP I SCHOL 374a PROP 5 374c d PRO 10 COROL 376d PROP II 13 377b 378c PROP 20 382d PRO RT III PROP 396a c PRO 2 DEF 1045T 396c PART V PROP 40 SCHOL 462d

## 1c(1) The origin of the human mind as a mode of thought

- 31 SPINOZA *Ethics* PART I PROP 14 COOL 2 360a A 25 COROL 365b PROP 29-31 366b 367a RT II 373a 394d passim esp PROP I 373d 374 PROP 5-6 374c 375a PROP 10 COOL 376d PROP II 13 377b-378c

## 1c(2) The properties of the human mind as a mode of thought

- 31 SPINOZA *Ethics* RT II DEF 3 373b AXIOM 2 373d PROP 13 377b 378c PROP 17 19

- 380d 382c PROP 40 387a 388b PROP 48-49 391a 394d PART III PROP 1 2 DEMO 37 396a RT PROP 3 398b c PROP 9-14 399b-401a PART V PROP 23 SCHOL 458c d

## 1d Mind as soul or spirit having the power to perform all cognitive and voluntary functions

- 35 LOCKE *Human Understanding* BK II CH I SECT 4 121d 122a SECT 10 123b d CH VI 131b c CH IX 138b 141a passim esp SECT 1 138b RT SECT 15 141a CH XI SECT 1-CH XII SECT 1 143d 147d CH XIX 175b 176b CH XXI SECT 5 6 179c 180a CH XX II SECT 5 205a b SECT 15 208c d SECT 18 209a SECT 21 209d SECT 28-32 211b 212d BK IV CH XIV 364b-365a
- 35 BERKELEY *Human Knowledge* SECT 2 413b SECT 7 414b c SECT 26-28 418a c SECT 89 430b RT SECT 135 142 440a-441c passim
- 42 HANF *Pure Reason* 194d 195a
- 53 JAES *Psychology* Ia 118b 119b 221a 226a esp 221a 222b

## 1d(1) The origin of the mind's simple ideas sensation and reflection

- 35 LOCKE *Human Understanding* BK II CH I SECT 1-8 121a 123a SECT 23 25 127b d CH II SECT 2 128a b CH III SECT 1 128d 129 CH VII 131c 133b CH XI SECT 17-CH XII SECT 1 147a d CH XII SECT 8 148c d CH XIV SECT 31 161d 162a CH XVII SECT 22 173d 174a CH XVIII SECT 6 174c d CH XX SECT 1 2 176b c SECT 15 177d CH XXI SECT 4 178d 179c SECT 75 200b d CH XXII SECT 1 204a b SECT 5 205a b SECT 15 208c d SECT 29-30 211d 212b SECT 32 37 212c 214b CH XXV SECT 9 216d SECT 11 217a
- 35 BERKELEY *Human Knowledge* SECT 1 413a
- 35 HUS *Human Understanding* SECT II DIV 12 14 455d-456b

## 1d(2) The activity of the understanding in relating ideas the formation of complex ideas

- 35 LOCKE *Human Understanding* BK II CH II SECT 2 128a b CH VII SECT 10 133a b CH XI SECT 6-7 145a b CH XII SECT 1-CH XI SECT 1 147b 149a CH XIII SECT 4-6 149b d SECT 27 154c d CH XIV SECT 27 160d 161a SECT 30-31 161c 162a CH XV SECT 2 162c d CH XVI SECT 1 2 165c d SECT 5 166b c CH XVII SECT 3 168b SECT 5 168d 169a CH XVIII SECT 1 174a SECT 6 174c d CH XXII SECT 2 201a b SECT 9 202c 203a CH XXIII SECT 15 208c d CH XXV SECT 3 238c d CH XXVII SECT 12 245b c BK III CH II SECT 3 253c CH V 263d 268a CH 7 SECT II 271b d SECT 26-31 274d 283a CH XI SECT 15 303b c BK IV CH IV SECT 5 324d

- 35 BERKELEY *Human Knowledge* SECT I 413a  
 35 HUME *Human Understandi* SECT II DIV  
 13 14 455d-456b SECT III DIV 18 457c d  
 SECT V DIV 39 466c d DIV 4 467b  
 42 KANT *Pure Reason* 101b 102a esp 101d  
 102a

1e M nd as a triad of cognit ve facult es under  
 stand ng judgment reason

- 41 KANT *Pure Reason* 15c 16a 34a 41c esp 38c  
 41c 51d 52b 59c 64a esp 60a-c 89c 94b  
 108a 113b esp 111d 113b 115b = 119a b  
 129 130c esp 130b-c 166c 171a 173b 174a  
 187a = 193a 200c mp 193a 195a, 199b c /  
*Fund Pri Metaphysic of Mor ls* 281c 282d  
 / *Practical Reason* 329a d 343a 349b 350c  
 / *Judgement* 461a 475d esp 461a-462d 464c  
 467a 472 d, 474b-475d 542b 543c 570b-  
 572c 604a b

1e(1) The rel tion of understanding to sense or  
 intuition 41 appl caution in the rel m of  
 n ture conform ty to law

- 42 KANT *Pure Reason* 14a 108a c esp 15b c  
 16a-c 22a c 23 24a 30b-c 31a d 34a c  
 37b-39c 41c-42a 45d-46a 47 48a 48d 51d  
 53b 55a 58a 64 64d 65c 94d 95d 98c  
 101b 107b 109d 112d 115b c 164a 171a /  
*Fund Pri Metaphysic of Mor ls* 275b 281c  
 282d esp 282b-c / *Practical Reason* 292a 293b  
 296a d 301d 302d 319c 320b 329b c / *I tro*  
*Metaphysic of Mor ls* 383c d 385a c 386d  
 387a c / *Judgement* 461a 475d esp 464 465c  
 474b-475d 482d 483d 492 d 542b 544c  
 550a 551a c 562d 563b 570c 572b 609b  
 610a

1 (2) The relation of judgment to ple sure nd  
 di ple sure it p plication in the rel m  
 of art ae thetic fin l ty

- 42 KANT *Pure Reason* 101b 107b esp 102b 103a  
 / *Judgement* 461a-475d esp 467d-473a 474b  
 475d 480d 482b 486d-491c 493 495a c  
 497 501b 542b-544 546d 548 558a b  
 559a 560c esp 560b = 562a 564c sp 562a d  
 567c 568c 570b 572c 577b 584d 585a  
 588c 597b 599b

1e(3) The rel tion of reason to de e or will  
 ts applica tion in the realm of freedom  
 the *summum b num*

- 42 KANT *Pri Et Re on* 164a 171a esp 164 165c  
 234 240b esp 236b 240b / *Fund Pri Met*  
*phys f Moral* 264d 265b 271c d 275b  
 279b 281c 283b esp 282d 283b 284d 285a  
 / *Pra ut l Reason* 292a 293b 296a d 301d  
 302d 303b 304b 307d 314d esp 314a d  
 315c 319 321b 327d 329c 337 355d esp  
 337a 338c 343b d 348d 355d / *Pri f Met*  
*physic l Elements f Ethic* 367c / *I tro Meta*  
*physic f Mor ls* 383c d 386b 387 388a d  
 390b / *J dment* 461a-475d esp 465a-c

- 474b 475d 483d-484b 587a 588a 594b-  
 595c 601d 604d 606d esp 606a d 607c  
 609b 610a

1f Mind as intelligence or self consciousness  
 knowing itself as universal the unity of  
 intellect and w ll

- 46 HEGEL *Philosophy of Right* INTRO par 4-9  
 12d 14d par 13 15c d par 21 17a c par 27  
 18d PART I par 35 21a b par 66 29a = PART  
 III par 353 360 112b 114a c ADDITIONS 4  
 116a d / *Philosophy of History* INTRO 160d  
 161a 170b d PART III 306b  
 53 JAMES *Psychology* 235a 238a esp 236a 237b

1g M nd s the total ty of mental processes and  
 as the principle of me ningful or pur  
 pos e behavior

- 53 JAMES *Psychology* 1a 9 esp 1a 5a = 6b 7a  
 51a b 121b 122b  
 54 FREUD *Interpretation of Dreams* 383b / *Un*  
*conscious* 428a-430c esp 428d 429b / *General*  
*Introduction* 452a-c 467c-468a

1g(1) The nature of the stream of tho ght  
 consciousness or expe ence the variety  
 of mental operations

- 53 JAMES *Psychology* 43a 44 51a 52a 90b 93a  
 esp 92b 140b 184a esp 140b 141a 145  
 146a b 157b-161a 163a 167b 300a 311a esp  
 300a b 307b 308a 311a 313a 314a 315a  
 319a esp 317b 319a 323a 327a esp 326a b  
 [fn 1] 360a 381b 385b 396a 397a 421a-427m  
 esp 424b 426a 452a-457a 480a b 502a  
 505b 561a 664a 666b 767a 851a 862a esp  
 852b 853a

- 54 FREUD *Interpretation of Dreams* 180c 181b  
 337a b 348a d 351d 353b esp 352d 363c  
 364b 375 385c esp 375b 376 377c 380d  
 383b c 384a 385c / *Unconscious* 442b-443d  
 / *General Introduction* 452a-c / *Beyond the*  
*Pleasure Principle* 646b 648b / *Ego and Id*  
 700a 701d / *Introductory Lectures* 835d  
 836a 837d 838c

1g(2) The topogr phy of mind

- 53 JAMES *Psychology* 9a 15a p 13a 14 17b  
 49b esp 43a-44a 47b-49b  
 54 FREUD *Interpretation of Dreams* 351b 353b  
 382a c / *Unconscious* 430d-432c / *Ego and Id*  
 701d 703a / *New Introductory Lectures*  
 836c d 839b d

1g(3) The un ty of attention and of conscious  
 ness the sel ct nty of mind

- 53 JAMES *Psychology* 91 184a 187b 260a 286a  
 esp 2 0a 262a 264b 265a 270b 272b 388  
 445a 446 606b 610b esp 608a 609a 692a  
 693b 773a 774a 830a 862b 863b [fn 2]  
 54 FREUD *Interpretation of Dreams* 375b-c /  
*Unconscious* 438c d / *Ego and Id* 698d 699b  
 [fn 1]



- 2 The human mind in relation to matter or body
- 2a The immateriality of mind mind as an immaterial principle a spiritual substance or as an incorporeal power functioning without a bodily organ
- 7 PLATO *Phaedrus* 124b 126c / *Phaedrus* 223b 225c 231c 234b / *Timaeus* 452d 453b 466a b
- 8 ARISTOTLE *Soul* BK I CH 4 {408<sup>b</sup> 18 29} 638c CH 5 {413<sup>b</sup> 18} 641c d BK II CH 2 {413<sup>b</sup> 24 29} 643d 644a BK III CH 4 {429 10-23} 661b 662a CH 5 662c d
- 9 ARISTOTLE *Generation of Animals* BK II CH 3 {736<sup>b</sup> 23} 777c
- 17 PLOTINUS *The Ennead* TR VI CH 107b c / *Fourth Ennead* TR VII CH 8 195b 196a 197c 198b
- 18 AUGUSTINE *Confessions* BK II par 2 43c d / *City of God* BK VIII CH 5 268c d BK XIX CH 18 523a b
- 19 AQUINAS *Summa Theologiae* PART I Q 3 A 1 REP 2 14b 15b Q 7 A 2 REP 2 31d 32c Q 7 A 2 379c 380 A 3 REP 2 380c 381b A 5 NS 382a 383b A 6 383c 384c Q 79 A 1 REP 4 414a d A 2 REP 2 414d-416a A 3 REP 3 416a 417a A 4 REP 4-5 417a-418c A 5 REP 1 2 418c-419b A 6 REP 1 2 419b 420d Q 83 A RE 5 436d 438a Q 84 A 1 NS 440d 442a A 2 ANS 442b-443 A 4 ANS 444d 445b A 6 ANS 447c 449a Q 85 A 6 NS 458d-459c Q 87 A 3 REP 3 467b 468a Q 89 A 1 ANS 473b 475a PART III Q 2 A 6 ANS 619d 620d Q 35 A 5 ANS 775d 777a
- 20 AQUINAS *Summa Theologiae* PART II Q 50 A 4 9a 10b Q 53 A 1 ANS and RE 2 3 19d 21a
- 21 DANTE *The Comedy of Purgatory* XXV {61-84} 92a b
- 28 HARVEY *On Animal Generation* 493a b
- 31 DESCARTES *Rules for the Direction of the Mind* PART IV 51d 52a 53b PART V 59a 60c / *Meditations* II 77d 81d 1196b 103d esp 98c 99a 99d 101d 102a / *Objections and Replies* 114d 115a 119d 120a DEF I VI 130c d DEF X 130d PRO IV 133c 135d 136b 152b d 156d 207d 208a 209 224d 225d 231a 232d 261a b 276b c
- 31 S. 402 *Ethics* PART V PRE 451a-452c
- 35 LOCKE *Human Understanding* BK II CH XVIII SECT 5 205a b SECT 15 22 208c 209d SECT 28 32 211b 212d esp SECT 32 212c d CH XXVI SECT 12 14 223a 224b pa III SECT 27 227d 228a BK IV CH III SECT II 313c 315b
- 35 BRADLEY *Human Knowledge* SECT 26 418 SECT 137 440b c SECT 141 441 B
- 40 GIBSON *Diary of a Fall* 186a b
- 46 HEGEL *Philosophy of Right* PART I par 48 24b-c
- 53 J. E. S. *Psychology* 130a 221a 223a
- 2b The potentiality of intellect or reason compared with the potentiality of matter or nature
- 8 ARISTOTLE *Physics* BK VII CH 3 {247<sup>b</sup> 248 9} 330b d / *Metaphysics* BK IX CH 2 {1046 37 24} 573c d CH 5 573a c / *Soul* BK I CH 5 662c d CH II {434 16-22} 667a
- 19 AQUINAS *Summa Theologiae* PART I Q 7 A 2 ANS and REP 2 3 31d 32c Q 14 A 2 REP 3 76d 77d A 8 ANS 82c 83b Q 19 A 1 A 1 108d 109c Q 50 A 2 REP 2 4 270a 272a Q 53 A 1 289a d A 2 ANS 289d 290d Q 58 A 1 ANS 300c 301a Q 75 A 5 REP 1 2 382a 383b Q 79 A 2 414d 416a A 6 ANS 419b-420d Q 84 A 2 ANS and REP 2 442b-443c A 3 REP 1 2 443d 444d Q 85 A 5 REP 3 457d 458d Q 87 A 1 ANS 465a 466c Q 91 A 3 REP 2 486b 487d RE XT I 51 Q 2 A 6 ANS 619d 620d Q 22 A 1 ANS and REP 1 720d 721c
- 20 AQUINAS *Summa Theologiae* PART II Q 50 A 4 REP 1 2 9a 10b Q 55 A 1 ANS and REP 5 26b 27a RE XT III Q 9 A 3 ANS and REP 3 765b 766b PART III SUPPL Q 92 A 1 ANS and REP 10 1025c 1032b
- 28 HARVEY *On Animal Generation* 494a b
- 53 JAMES *Psychology* 153a
- 2c The interaction of mind and body
- 7 PLATO *Timaeus* 452d-453b 474b-476b
- 12 LUCRETIUS *Nature of Things* BK III {91-815} 31b 40c
- 17 PLOTINUS *First Ennead* TR I CH 5 72d 4
- 30 BACON *Advancement of Learning* 48d 50b esp 48d 49c
- 31 DESCARTES *Discourse* PART V 60b c RE XT VI 61c / *Meditations* VI 99d / *Objections and Replies* 207d 208a 209c
- 31 S. INOZEA *Ethics* PART V PRE 451a 452c
- 35 LOCKE *Human Understanding* BK IV CH III SECT 28 322a-c
- 36 STERNE *Tristram Shandy* 229b 232a
- 42 HART *Judgement* 528d 539a
- 49 DARWIN *Descent of Man* 281a 282c
- 53 JAMES *Psychology* 2b-4 8a 52b esp 8a 9a 14b 15 19a b 47b 49b 51b 52a 82b 84 94b esp 89b 93a 116a 119b 139a 140b 208a b 222b 223a 259a 288a 289b 311a 450a-451b 694a 742b 755a 758a 759a 827b 835a c p 829b 830a
- 54 FREUD *Interpretation of Dreams* 154c 155a / *Annales* 402d 403b passion / *Instinct* 412b-414c e p 413d-414a / *General Product* 451c-452a 605b 606a / *Beyond the Pleasure Principle* 639a 640d 646b-651a / *Ego and Id* 700a 703a passion esp 702d 703 / *New Introductory Lectures* 829a-c
- 2c(1) The physiological conditions of mental activity
- 8 ARISTOTLE *Physics* BK VII c 3 {246<sup>b</sup> or 248<sup>b</sup>} 330 d / *Soul* BK II CH 9 {421 19-21} 652d / *Dreams* 702a 706d

- 9 ARISTOTLE *Parts of Animals* BK IV C 1 10  
[686<sup>b</sup> 22 29] 218b c
- 10 HIPPOCRATES *Sacred Disease* 155d 160d esp  
159a c
- 12 LUCRETIVS *Nature of Things* BK IV [722 776]  
53d 54b
- 12 AURELIUS *Meditations* BK III SECT I  
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- 19 AQUINAS *Summa Theologiae* PART I Q 84  
A 7 ANS 449b-450b A 8 REP 2 450b-451b  
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- 30 B CON *Advancement of Learning* 48d 50b
- 31 DESCARTES *Rules* XII 19a 20d / *Objections and Replies* 207d 208a 208d 209a  
209c
- 31 SPIROZA *Ethics* PART II PROP 4 380c PRO  
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- 35 LOCKE *Human Understanding* BK II CH I  
ECT 23 127b XIX SECT 175b CH XXVII  
SECT 27 227d 228a CI XXVIII SECT 6 249a b  
K IV CH III SECT 28 322a c
- 35 BRADLEY *Human Knowledge* SECT 18 20  
416b 417 SECT 50 422c
- 40 D RWIN *Description of Man* 288c d 299c  
595d 596a
- 51 TOLSTOY *War and Peace* PROLOGUE II 689c  
690a
- 53 JAMES *Psychology* 2b 3a 9a 73b 152a 153a  
157a b 166b 167a 367a 373a esp 370a b  
380a B 381b 383b 387b 388 413b 420b  
427b 430b 453a 455b 456a 497a 501b  
506 507a 520a 521 533a 538b 690 691b  
758 759a 829b 865
- 54 FRUD *Hysteria* 87a / *Interpretation of*  
*Delirium* 351b 352c 378 b 382a c / *Con-*  
*sciousness* 431d / *General Introduction* 586c d /  
*Beyond the Pleasure Principle* 639b d 646b  
648a
- 2 (2) The influence of mental activity on bodily  
activities
- 7 PLATO *Timaeus* 474d 475b
- 9 ARISTOTLE *Motion of Animals* CH 7 [701<sup>b</sup>  
13]-CH 8 [702 22] 237a c CH 11 239a d
- 12 LUCRETIVS *Nature of Things* BK III [136-176]  
31d 32b
- 19 AQUINAS *Summa Theologiae* PART I Q 84  
A 3 ANS 106b-107c Q 117 A 3 REP 3 598c  
599b
- 25 MONTAGNE *Essays* 36c 40d 234 235  
332d 333c 532a b
- 8 HAVERMANN *Use of the Heart* 296d / *Con-*  
*dition of the Heart* 321d 322a 322 d
- 30 B CON *Advancement of Learning* 48d 50b
- 35 LOCKE *Human Understanding* K I CH XV  
CT 5 179c BK IV CH I SECT 28 322a  
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- 35 HUME *Human Understanding* SECT VI DIV  
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- 42 HART *Identities* 538d 539a 560b
- 44 BOWEN *Humanities* 350c d

- 51 TO STOT *War and Peace* BK III 141d 142a  
142d BK V 213c d BK VI 247d 248a BK IX  
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BK XIII 567d 568c esp 68b BK XV 617a b  
618a b
- 53 JAMES *Psychology* 3a 1i 64a 67a 132 134b  
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794a 827b 835a esp 828a 830a 841a 848a  
passim esp 842a B 847b 848a
- 54 FREUD *Origin and Development of Psycho-*  
*analysis* 1b 6b esp 4c 5a / *Hysteria* 25a 59d  
esp 25a 27a 30a d 35b c 37d 38a 56b  
58c 82d 83 / *Narcissism* 403a c / *Repres-*  
*sion* 426b B / *General Introduction* 572a b /  
*Inhibitions Symptoms and Anxieties* 718a  
719d 728c 729a / *New Introductory Lectures*  
852a B

## 2d The parallelism of mind and body

- 31 SPIROZA *Ethics* PART I DEF 2 355a P OP  
14 COROL 2 360a PROP 25 COROL 365b  
PART II PROP 1 2 373d 374a P OP 5 7  
374c 375c PROP 11 13 377b-378c PROP  
15 28 380c 384c PART III PROP 2 396c  
398b PRO 10-14 399c-401a PART I P OP I  
452d
- 53 JAMES *Psychology* 84a 90b esp 84b 85b 88a  
90 96a b 116a 119b esp 119b

2e The reduction of mind to matter the atom-  
ic explanation of its processes and of the  
difference between mind and soul and  
between mind and body

- 7 PLATO *Phaedrus* 241d 242b / *Symposium* 567a  
568a
- 8 ARISTOTLE *Soul* BK CH 2 5 633a 641d  
passim c p CH 2 [4 3 31 404 30] 633a c  
[405 7 13] 634b
- 12 LUCRETIVS *Nature of Things* BK II [51 293]  
18b d [865-90] 26a 27c BK III [94-8 9]  
31b 40c BK IV [722-817] 53d 54d [877-961]  
55d 56d
- 17 PLOTINUS *Second Ennead* TR IX CH 5  
68b / *Third Ennead* TR I B 2 78d CH 3  
79b c / *Fourth Ennead* TR VII CH 8 195b  
196c
- 19 AQUINAS *Summa Theologiae* PART I Q 84  
A 2 ANS and R 2 442b 443c A 6 ANS 447c  
449a
- 23 HOBBS *Leviathan* PART I 49a d 52c PART  
II 162c
- 31 DESCARTES *Objections and Replies* 224d  
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- 12 EPICTETUS *Discourses* bk i ch 22 127c d bk ii ch ii 130a c
- 17 PROCLUS *First Ennead* TR II CH 4 8b c / *Fourth Ennead* TR III CH 25 155b TR I c i 5 160d 161b / *Fifth Ennead* TR II CH 2 216b
- 18 AUGUSTINE *Confessions* bk x par 10 73d 74a par 16-19 75b 76b par 26-38 78a 81a / *City of God* bk viii c i 6 269b c / *Christian Doctrine* bk i ch 9 627a
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- 28 HARVEY *On Animal Generation* 333d 335 esp 334c d
- 30 BACON *Advancement of Learning* bk ii 1b c
- 31 DESCARTES *Rule IV* 5c d 6d viii 13c d / *Discourse* PART IV 53b P RV 54c / *Meditation* ii iii 77d 89a ep iii 83b vi 96d 97a / *Object and Reason* 120c d 140c 215b c 224b d
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- 35 BERKELEY *Human Knowledge* INTRO SECT I 4 405a d
- 35 HUME *Human Understanding* SECT I DIV 6 453c SECT V DIV 45 469c SECT VII DIV 48 470d-471c
- 36 STERNE *Tristram Shandy* 194a 234b 236b
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- 42 KANT *Pure Reason* Ia II 108a d 109b c 129c 173a esp 133c d 193a II 200c 209d 229b c 233d 234b / *Fundamental Principles of Metaphysics* of Metaphysics 260d 261b 283d 284d
- 43 FEDERALIST NUMBER I 29d NUMBER 37 118c
- 43 MILL *Liberty* 274b 293b passim 293d
- JAMES *Psychology* 122b 125b 241a b 361a b 460a-469a esp 462b-464a 468b-469a 508a 520a esp 508a 610b 625a passim esp 618b-621a 625a
- 54 FREUD *Interpretation of Dreams* 148d 149a 210c d 337a c 379b d / *General Introduction* 453b-476a ■ passim 602b c / *War and Death* 760d 761a / *New Introductory Lectures* 819b-c
- 56 *The natural limits of the mind the unknowable objects which transcend its powers reason a critical term not one of its own limits or boundaries*
- OLD TESTAMENT *Exodus* 33 32 33 / *Job* 9:21 11:7-9 / 14 38 12:21 36:26 37:14 33 38 1:42 6 / *Psalms* 139 1-6—(D) *Psalms* 139 1-6 / *Proverbs* 20 24 25 3 27 1 / *Ecclesiastes* 3 11 6 11 12 8:7 16-17 9 11 12 11:2-6—(D) *Ecclesiastes* 3 11 6 11-7 8:7 16-17 9 11 12 11:2-6 / *Isaiah* 55 8-9 —(D) *Isaiah* 55 8-9

- APOCRYPHA *Wisdom of Solomon* 9:9-18—(D) OT *Book of Wisdom* 9:9-19 / *Ecclesiasticus* 1:1 3 18 4 7 24:27 29—(D) OT *Ecclesiasticus* 1:1 2 18 4-6 24 37 39
- NEW TESTAMENT *Mark* 13 31-37 / *John* 1:1 / *Acts* 1 6-7 / *Romans* 11 33 34 / *Corinthians* 2 16 / *1 Timothy* 6 14 16 / *James* 4 13 15
- 5 AESCHYLUS *Suppliant Maidens* [86-93] 2a b
- 5 SOPHOCLES *Ajax* [1419-1421] 155c
- 5 EURIPIDES *Helen* [1137 1150] 309a
- 7 PLATO *Parmenides* 489d 491a
- 8 ARISTOTLE *Physics* BK II CH 4 [196 5 7] 272c [196 5 7] 273a / *Metaphysics* BK I CH 2 [99 2 28-98 3 1] 501a b BK II CH I [99 3 30 11] 511b d BK XII CH 7 [107 2 13 29] 602d 603a
- 9 ARISTOTLE *Parts of Animals* BK I C I 5 [64 4 30-64 5 4] 168c d / *Ethics* BK X CH 7 [117 7 29-117 8 2] 432c
- 12 LUCRETIVUS *Nature of Things* BK IV [469-521] 50b 51a
- 18 AUGUSTINE *Confessions* BK I part 1a b BK VI par 6-8 36c 37c / *City of God* BK VIII CH 6 269b c BK X CH 31 319b-d BK XII CH 7 346c d
- 19 AQUINAS *Summa Theologiae* PART I Q I A 1 3b 4a Q 3 A 4 REP 2 16d 17c Q 12 A 4 33b 54c AA II 12 59d 61c Q 29 A 1 REP 2 163a 163b Q 32 A 1 175d 178a Q 46 250a 255d Q 50 A 2 ANS 270a 272a Q 79 A 4 A 1 417a 418c Q 84 A 5 446c-447c AA 7-8 449b-451b Q 85 A II 460b-461b Q 86 461b 464d Q 88 468d 473a Q 94 AA 1 2 501d 504a Q 11, A 2 ANS and REP 1 597c 598c
- 20 AQUINAS *Summa Theologiae* PART II Q 68 A 2 89c 90c Q 91 A 4 210c 211c Q 93 A 2 216c 217b Q 109 A 1 338b 339c Q 1 2 A 5 359c 360c PART II II Q 2 A 3 392d 393c Q 8 A 1 417a d Q 9 A 1 423c 424b
- 21 DANTS *Duane Comedy* HELL VII [61-96] 10b c PURGATORY III [2-45] 36a b X [131 129] 68c d PARADISE II [46-148] 108b 109b passim IV [28-48] 111a XIX [40-9] 133c 136a XXI [82 102] 139a b
- 23 HOBBS *Leviathan* PART I 49 52c 54a-c 78d 79a PART II 163a
- 25 MOVET IGNE *Esays* 80b 82b 209a c 212a 215a 238c 239c 267c 268a 271b 273b 291b-291b 497b 502c passim esp 501d 502c
- 28 HARVEY *Motion of the Heart* 273c d / *Of Animal Generation* 389b 492c
- 30 BACON *Advancement of Learning* 2c 4c 17b-c 41b d 54b e 96d 97b / *Novum Organum* BK I AP I 2 107a b AP I 9 10 107d AP II 21 108b c A 1 37 109b-c AP II 48 110d 111a BK I AP II 15 149a
- 31 DESCARTES *Discourse* PART I 43c / *Meditations* I 75a 77c passim III 85d 8 14 89a 93a VI 96b 103d passim / *Objectons and Replies* 112a c 123d 126b 168d 169 215d 216c 259a b

31 SPI OZA *Ethics* PART II AXIOM 5 373d PROP 24 31 383c 385c

32 MILTON *Paradise Lost* BK V [544-576] 187a B BK VI [296-301] 202b BK VII [109-130] 219b 220a BK VIII [114 130] 234b 235a / *Samson Agonistes* [293-314] 316a b

33 PASCAL *Pensées* 72 181a 184b 184 241 205a 217b

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35 BRIDLEY *Human Knowledge* INTRO SECT 1 3 405a-c SECT 81 428c d SECT 101 432c d

36 HUMPHREY *Human Understanding* SECT I DIV 2 451b-c DIV 6-10 453b-453b passim & CT I DIV 13 16 455d-457a SECT IV DIV 26 460b c DI 29 461a d SECT V DIV 36 464d-465a SECT VII DIV 57 475b-c DIV 60 477a c SECT VIII DIV 62 478c DIV 71-72 482c-483c DIV 81 487a SECT XI DIV 110 501a b SECT XII 503c 509d passim esp DIV 130 508c-d

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44 B SWELL *Joh son* 126b 129a

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48 MELVILLE *Moby Dick* 244b 245b 272b-276b esp 276a b 366a B

51 TOLSTOY *War & Peace* BK I 50b-c BK V 196a 197c EPILOGUE II 693d 694d

52 DO TOVSKY *Others* *La am ov* K V 120d 121c

53 J MIES *Psychology* 223b 224a 262a 269a 388a 400a b 822b

54 FUD *Interpretation of Dms* 383b c / *U conscr u* 430b c

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18 AUGUSTINE *Confessions* BK I par 1 1a b BK VI par 6-8 36c 37c BK IX par 23 25 68a c BK X par 65 87d 88a / *Civ of God* BK X CH 2 3 299d 301a BK XI CH 2 323a c BK XIV CH 18 523 b BK XXII CH 29 614b-d / *Christian Doctrine* BK III CH 37 674c d BK IV CH 15 16 685c 686c

19 AQUINAS *Summa Theologiae* PART I Q I A 13b-4a Q 2 A 2 REP 11d 12c Q 12 50b 62b Q 32 A 1 175d 178a Q 79 A 4 ANS and R P I 417a-418c Q 84 A 5 446c-447c Q 86 A 4 REP 2 463d 464d Q 105 A 3 540c 541b

20 AQUINAS *Summa Theologiae* PART II QQ 68 69 87c 101c Q 109 A 1 338b 339c PART II II QQ 8-9 416d-426c Q 45 598 603c

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32 MILTON *Paradise Lost* BK XII [552-587] 331a 332a

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40 GIBSON *Decline and Fall* 190d 191a

44 BOSWELL *Johns* n 394a b 395a b

51 TOLSTOY *War & Peace* BK I 50b c BK V 196a 198b K XI 525d c

52 DOSTOYEVSKY *Bethers* *La ama ov* BK I 13c d BK V I 189a 191a c esp 191a c

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7 PLATO *Charm de* 8b 9d

8 ARISTOTEL *Metaphys* BK XII CH 7 [1072<sup>b</sup> 13 29] 602d 603a CH 9 [1072<sup>b</sup> 35 1075 4] 605c / *Soul* BK III CH 4 [429<sup>b</sup> 5-9] 661d [429 25 430<sup>a</sup> 9] 662b-c CH 6 [430<sup>b</sup> 21-26] 663b / *Memory and Remi* see c CH 2 [452<sup>b</sup> 3 28] 691d 695a

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(6) *Tb reflexi ty of m nd the m nd s knowl dge of i s and i s acts*

- 12 EPICETUS *Di com s s* BK I CH I 105a b  
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17 PLOTINUS *Th d Ennead* TR IX CH 3 137 d  
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18 AUGUSTINE *City of God* BK VI II 26 336d  
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- 19 AQUINAS *Summa Theolog ca* PART I Q 4  
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- 21 DANTE *De Com dy PURGATORY* XVIII  
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- 31 DE CARTES *Discours* PART IV 51d 52a /  
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- 31 SPINOZA *Eth cs* ART II PROP 21 SCHOL 383a  
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- 35 LOCKE *Human Understanding* 87d NTRO  
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1 204a b SECT 5 205a b SECT 15 208c d  
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- 35 HUME *Human Under land ng* SECT I DIV 7-9  
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- 38 ROUSSEAU *Inequ lity* 349b c

- 41 GIBSON *D n and Fall* 150c

- 42 KANT *Pu e Reason* 15d 16c 31a 32c 49c  
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- 46 HEGEL *Ph l phs of R ght* PART II par 38  
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- 52 DOSTOEV KY *Other K amaz p* K XI 341c

- 53 JAMES *P s h l gy* 121a b 122b 126a 177a  
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- 54 FREUD *Interp etat n f D eams* 180b 181b  
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- 53 JAMES *P s h l gy* 43a-44 90b 93a esp 92b  
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- 54 FREUD *I terp etat n f D eams* 197d 198a  
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- 31 DESCARTES *Discours* PART IV 51d 52a /  
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- 35 LOCKE *Human Under land ng* K II CH  
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- 42 KANT *Pu e Reason* 121a 123b / *P actic*  
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- 46 HEGEL *Philosophy of R ght* II RT II par 13  
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- 49 DARWIN *Descent of Man* 297a c

- 51 TOLSTOY *War and Pea e* EPILOGUE II 688a  
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- 53 JAMES *Psychology* 147a 149a 188a 197a esp  
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- 54 FREUD *Civil ation and Its D contents* 767d  
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7b The degrees or states of conscious eis wak ng dreaming sleeping

- 7 PLATO *Rep bl c* BK V 370d 371b BK IX  
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- 8 ARISTOTLE *Phys s* BK VII CH 3 [ 47<sup>b</sup>13  
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- 12 LUCRETIVS *Natu e f Th gs* BK IV [49<sup>a</sup>  
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- 19 AQUINA *Summa Th ol g ca* PART I Q 84  
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- 20 AQUINA *Summa Theol g ca* PART III C<sup>1</sup> 176  
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- 23 HORRER *Le aikan* P RT I 50d 51d

- 25 MONTAIGNE *E ays* 176c 180b 290b c

- 31 DESC RTES *Disc ors* PART IV II 53c 54b  
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- 31 SPINOZA *Eth s* PART II PROP 49 C I  
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- 32 MILTON *Pa ad L n* BK V [28 129] 176a  
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- 35 LOCKE *H man Und and ng* BK I C I  
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- 46 HZ EL *Phlo phs of H tor y* P RT I 220c  
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- 48 MELVILLE *Moby D ck* 19 20a 115b 117a  
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51 Tolstoy *War and Peace* BK III 147c 148c  
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52 Dostoevsky *Brothers Karamazov* BK VI  
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53 JAMES *Psychology* 98a 103b 107a 114b esp  
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54 FREUD *Interpretation of Dreams* 137a 176d  
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55 JAMES *Psychology* 8b 9a 74b 78b 107a  
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54 FREUD *Origin and Development of Psycho-  
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8 The pathology of mind the loss of abeyance  
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5 SOPHOCLE *Ajax* 143a 155a esp [28 345]  
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5 EUCLID II *Elements* 340a 352a c esp [847-  
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9 ARISTOTLE *Eth.* BK VI C 15399 d passim  
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19 AQUINAS *Summa Theologiae* PART I Q 84  
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20 AQUINAS *Summa Theologiae* PART I Q 74  
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31 SPINOZA *Ethics* PART IV PROP 44 SCHOL  
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48 MELVILLE *Moby-Dick* 148b 150 306a 307a

51 Tolstoy *War and Peace* BK VI 513d 515a  
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53 JAMES *Psychology* 241b 258b 818b 819a

54 FREUD *Hysteria* 86a d 90a b / *Interpretation  
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8a The distinction between sanity and mad-  
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6 HERODOTUS *History* BK II 96b 98a

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19 AQUINAS *Summa Theologiae* PART II Q 10  
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23 HOBBS *Leviathan* PART I 67b 67d 68b B  
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25 MONTAIGNE *Essays* 166a 167a 235b c

26 STAKESPEARE *Midsummer Night's Dream*  
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27 SHAKESPEARE *Hamlet* ACT II C II [171-22]  
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44 BOWELL *Johnson* 13c 14a 112d 354 355a

48 MELVILLE *Moby-Dick* esp 122b 123b 135  
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51 Tolstoy *War and Peace* BK XI 525c

52 Dostoevsky *Brothers Karamazov* BK XI 337a  
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53 JAMES *Psychology* 137a 241b 244a esp 244a  
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54 FREUD *Hysteria* 86c / *Interpretation of  
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conscious* 433b c 440a 442b / *New Introduc-  
tory Lectures* 812a b

8b The causes of mental pathology organic  
and functional factors

6 HERODOTUS *History* BK II 85b BK VI  
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7 PLATO *Tymaeus* 474b d

8 ARISTOTLE *Celestia* 8 9<sup>b</sup> 34 1 15a  
/ *Physics* BK V CH 3 [21<sup>b</sup> 3 -48 6] 330 B  
/ *Soul* BK III CH 3 [4 4-8] 651b / *Dreams*  
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9 A. TOTT *Principles of Mental* K I CH 7  
[653<sup>b</sup> 7] 178d 179a

10 HILPOTE *Science of Disease* 154a 160d esp  
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- (8) *The pathology of mind the loss or abeyance of reason the causes of mental pathology organic and functional factors*
- 19 AQUINAS *Summa Theologiae* PART I Q 84 A 7 ANS 449b-450b Q 115 A 5 REI 1 590d 591c PART I II Q 6 A 7 REP 3 650a d Q 10 A 3 ANS and REP 2 664d 665c Q 28 A 3 ANS and REP 1 742a d Q 37 A 4 REP 3 785d 786d Q 48 A 3 4 824c 826a c
- 23 HOBBS *Leviathan* PART I 68b 71b
- 27 SHAKESPEARE *King Lear* ACT II SC 11 (106-113) 259c
- 29 HARVEY *On Animal Generation* 347c
- 30 BACON *Advancement of Learning* ag 49d 50b
- 31 DESCARTES *Objections and Replies* 155d 156a
- 40 GIBSON *Decline and Fall* 598a b
- 44 BOSWELL *Johnson* 177a b 355a 356b
- 48 MELVILLE *Moby Dick* 135a 136b
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*as man's highest vocation: reason as the*  
*principle of all human work*

48 MELVILLE *Moby-Dick* 255a

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10 The existence of mind apart from man

10a The indwelling reason in the order of nature

12 AURELIUS *Meditations* 253a 310d esp bk ii  
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10b *None* of the intellectual principle is relation to the One and to the world soul

7 PLATO *Cratylus* 93c 101d 102a / *Phaedrus*  
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17 PLOTINUS *Third Ennead* tr v ch 6 103b-  
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- 46 HEGEL *Philosophy of Right* INTRO par 24  
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- 46 HEGEL *Philosophy of Right* PART III par  
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- 46 HEGEL *Philosophy of Right* PART III par  
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- I Works by authors represented in this collection
- II Works by authors not represented in this collection.

For the date place and other facts concerning the publication of the works cited consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

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## Chapter 59 MONARCHY

### INTRODUCTION

OF all the traditionally recognized forms of government monarchy is the easiest to define and to identify. As the word indicates it is government by one man. It is indifferent whether that man is called king or prince, Caesar or Czar. Of all such titles, king is the most frequent and in consequence monarchy is often called kingship or referred to as the royal form of government.

When monarchy is thus defined in terms of the principle of *unity*, other forms of government such as aristocracy or oligarchy and democracy tend to be characterized as government by the few or the many. But the numerical criterion by itself is obviously inadequate. To those who distinguish between aristocracy and oligarchy it makes a difference whether the few who rule are selected for their pre-eminence in virtue or in wealth. A tyranny like a monarchy may be government by one man. Hence those who wish to use the word monarchy or king eulogistically cannot be satisfied with a definition that fails to distinguish between king and tyrant.

It has been said—by Aristotle for example—that the perversion of or deviation from monarchy is tyranny, for both are forms of one man rule. But he adds there is the greatest difference between them: the tyrant looks to his own advantage, the king to that of his subjects. Both Aristotle and Plato also say that as tyranny is the worst form of government, so monarchy at the opposite extreme is the best. But though in their opinion tyranny is *always* the worst form of government, Aristotle at least does not seem to think that monarchy is *always—under all conditions—best*.

Further complications appear when other views are taken into consideration. The chapters on CITIZEN, CONSTITUTION and GOVERNMENT discuss the basic opposition between ab-

solute and limited government in the various terms in which that opposition is traditionally expressed: royal as opposed to political, despotic as opposed to constitutional government or government by man as opposed to government by law. That opposition seems to be relevant to the theory of monarchy certainly to any conception of monarchy which tends to identify it with absolute rule or which sees some affinity between royal and despotic government.

The word despotic is of course sometimes used in a purely descriptive rather than a disparaging sense. Used descriptively it denotes the absolute rule exercised by the head of a household over children and slaves, neither of whom have any voice in their own government. Aristotle sometimes characterizes the royal government of a political community as despotic to signify its resemblance to the absolute rule of the father or master. He expresses the same comparison in reverse when he says that the rule of a father over his children is royal.

The derogatory sense of despotic would seem to apply to those cases in which grown men are ruled as if they were children or free men as if they were slaves. The great issue concerning monarchy therefore is whether royal government is despotic in this sense. Always or only under certain conditions? And if despotic is it also tyrannical? Is monarchy in principle the foe of human liberties? To all these questions there are opposite answers in the great books of political theory. Where Hegel says that public freedom in general and an hereditary monarchy guarantee each other, others like Rousseau and Mill identify the freedom of citizenship with republican or representative government.

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form of government. The development of the state to constitutional monarchy is the achievement of the modern world. He thinks Montesquieu was right in recognizing that the ancient world knew only the patriarchal type of monarchy—a kind of transference of familial government to larger communities still organized on the domestic pattern. But according to Hegel, Montesquieu himself, in stressing the role of the nobility, shows that he understands not the type of monarchy which is organized into an objective constitution, and in which

the monarch is the absolute apex of an organically developed state, but only feudal monarchy, the type in which the relationships recognized in its constitutional law are crystallized into the rights of private property and the privileges of individuals and corporations.

It may be questioned, however, whether Hegel's theory of constitutional monarchy avoids the issue raised by republicans who think that monarchy is inseparable from some form of absolutism, or that monarchy is entirely devoid of absolutism, has no special character as a form of government. In spite of his acceptance of the traditional distinction between constitutional government and despotism, Hegel seems to regard the sovereignty of the state as absolute in relation to its own subjects at home—no less absolute than is its sovereignty in external affairs *vis à-vis* foreign states. The crown is the personification of the absolute sovereignty of the state at home. The absolute power of the state comes into existence only in the person of a monarch who has the final decision in all matters.

The sovereignty of the people, writes Hegel, is one of the confused notions based on the wild idea of the people. Taken without its monarchy and the articulation of the whole, which is the indispensable and direct concomitant of monarchy, the people is a formless mass and no longer a state. Hegel thus dismisses the notion of popular sovereignty (which to Rousseau, Kant, and the Federalists is of the essence of republican government) as inconsistent with the idea of the state in its full development. A profound opposition therefore exists between Hegel's theory of constitutional monarchy and republican theories of constitutional government. Even though the issue cannot be

stated in terms of government by men *vs.* government by laws, a monarchy as opposed to a republic still seems to represent the principle of absolutism in government.

THERE IS STILL another conception of a type of government which is neither a pure republic nor an absolute monarchy. What the mediaeval writers call a mixed regime is not a constitutional monarchy in the Hegelian sense, nor is it what Aristotle means when he uses that term. The mediaeval mixed regime is a combination of two distinct principles of government—the *royal principle* according to which absolute power is vested in the sovereign personality of an individual man, and the *political principle* according to which the supremacy of law reflects the sovereignty of the people who have the power of making laws either directly or through their representatives.

This conception of a mixed regime—of government which is *both royal and political*—appears at first to be self-contradictory. In Aristotle's terms, it would seem impossible to combine the supremacy of law, which is the essence of constitutional government, with the supremacy of a sovereign person, which is the essence of royal government. The mixed regime would also seem to be impossible in terms of Hobbes' theory of the indivisibility of sovereignty. Impossible in theory, the mixed regime nevertheless existed as a matter of historic fact in the typical mediaeval kingdom, which derived its character from the feudal conditions under which it developed.

Does not the fact of its historic existence refute the incompatibility of the principles which the mixed regime combines? The answer may be that like a mixture of oil and water, royal and political government can only exist as a mixture in unstable equilibrium. Originating under feudal conditions, the mixed regime tends toward dissolution as these conditions disappear with the rise of the modern nation state. It first tends to be supplanted by a movement toward absolute monarchy. Then, in the course of reaction and revolution, it tends toward constitutional monarchy or republics through added limitations on the power of the throne.

These historic developments seem to indicate that the principles of the mixed regime are ulti-

g to law. Of these most clearly exemplified is the Spartan constitution. Aristotle says that the so-called limited monarchy or kingship according to law is not a distinct form of government for under all governments as for example in a democracy or aristocracy there may be a general holding office for life and one person is often made supreme over the administration of a state.

Whether or not there is a supreme commander or a chief magistrate elected or hereditary the government is not distinctively royal if the man called king is subject to the laws and if the other men in the state are not his subjects but his fellow citizens. For somewhat different reasons Hobbes agrees with the view that only absolute monarchy is monarchy. When the king is limited in power he says the sovereignty is always in that assembly which had the right to limit him and by consequence the government is not monarchy but either democracy or aristocracy as of old time in Sparta where the kings had a privilege to lead their armies but the sovereignty was in the Ephors. Hobbes uses the government of one people over another people—the mother country over colonies or the conqueror over a subjugated nation—to illustrate what he means by absolute monarchy. This suggests a significant parallelism between the problems of monarchy and the problems of empire.

IF THERE WERE universal agreement on the point that only absolute monarchy is truly monarchy the issue concerning monarchy could be readily translated into the basic opposition between rule by men and rule by law. But such agreement seems to be wanting and the problems of monarchy are in consequence further complicated.

Plato for example distinguishes in the *Statesman* between three forms of government according to established laws of which one is monarchy. Monarchy is better than aristocracy and democracy obviously not with respect to the principle of the supremacy of law but simply because government by one seems to be more efficient than government by a few or many just as tyranny is the worst form of government because in violating or overthrowing the laws one man can succeed in going further than a

multitude which is unable to do either any great good or any great evil.

But all these forms of government good and bad better and worse are compared by Plato with a form of government which he says exceeds them all and is among States what God is among men. It seems to be monarchical in type but though not lawless like tyranny it is entirely above the need of written or customary rules of law. The best thing of all Plato writes is not that the law should rule but that a man should rule supposing him to have wisdom and royal power. Whether such government can ever exist apart from divine rule or perhaps the advent of the philosopher king the point remains that Plato seems to conceive monarchy in two quite distinct ways—both as an absolute rule and also as one of the legally limited forms of government.

Montesquieu separates monarchy from absolute government entirely. At the same time he distinguishes it from republics whether aristocracies or democracies. According to him monarchy is as much a government by law as much opposed to despotism or absolute government as are republics. Monarchies and republics are the two main kinds of constitutional government just as aristocracies and democracies are the two main kinds of republic.

Where Aristotle holds that constitutional monarchy is not a distinct type of government Montesquieu holds that absolute monarchy does not deserve the name of monarchy but should be called despotism instead. He criticizes Aristotle's fivefold classification of kingdoms saying that among the number of monarchies he [Aristotle] ranks the Persian empire and the kingdom of Sparta. But is it not evident he asks that the one was a despotic state and the other a republic? Since Montesquieu's own view of monarchy involves in addition to a king a body of nobles in whom intermediate and subordinate powers are vested he thinks no true notion of monarchy can be found in the ancient world.

Hegel agrees with Montesquieu that constitutional monarchy is the very opposite of despotism but he goes much further than Montesquieu in the direction of identifying monarchy with constitutional government. For him constitutional monarchy is the ultimately true

form of government. The development of the state as constitutional monarchy is the achievement of the modern world. He thinks Montesquieu was right in recognizing that the ancient world knew only the patriarchal type of monarchy—a kind of transference of familial government to larger communities still organized on the domestic pattern. But according to Hegel, Montesquieu himself, in stressing the role of the nobility, shows that he understands not the type of monarchy which is organized into an objective constitution, and in which the monarch is the absolute apex of an organically developed state, but only feudal monarchy, the type in which the relationships recognized in its constitutional law are crystallized into the rights of private property and the privileges of individuals and corporations.

It may be questioned, however, whether Hegel's theory of constitutional monarchy avoids the issue raised by republicans who think that monarchy is inseparable from some form of absolutism, or that monarchy is entirely devoid of absolutism, has no special character as a form of government. In spite of his acceptance of the traditional distinction between constitutional government and despotism, Hegel seems to regard the sovereignty of the state as absolute in relation to its own subjects at home—no less absolute than is its sovereignty in external affairs vis à vis foreign states. The crown is the personification of the absolute sovereignty of the state at home. The absolute power of the state comes into existence only in the person of a monarch who has the final decision in all matters.

'The sovereignty of the people,' writes Hegel, 'is one of the confused notions based on the wild idea of the people. Taken without its monarchy and the articulation of the whole, which is the indispensable and direct concomitant of monarchy, the people is a formless mass and no longer a state.' Hegel thus dismisses the notion of popular sovereignty (which to Rousseau, Kant, and the Federalists is of the essence of republican government) as inconsistent with the idea of the state in its full development. A profound opposition therefore exists between Hegel's theory of constitutional monarchy and republican theories of constitutional government. Even though the issue cannot be

stated in terms of government by men vs. government by laws, a monarchy as opposed to a republic still seems to represent the principle of absolutism in government.

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These historic developments seem to indicate that the principles of the mixed regime are ulti-



much as direct notable in fact as they are in theory.

Montesquieu's remark that the ancients had not a clear idea of monarchy can be interpreted to mean that they did not have the conception of a mixed regime. Before the accidents of history brought into existence it is unlikely that anyone would have conceived of a government both civil and political. Montesquieu does not adopt the medieval description of a mixed regime which as stated by Aquinas is partly king, partly nobles, and partly commons. In his theory there is one at the head of all, partly an executive in so far as a number of persons are set in authority, and partly a legislature. The government by the people in so far as the rulers can be chosen by the people and the people have the right to choose their rulers. Yet Montesquieu's theory of monarchy seems to be determined by characteristics peculiar to the medieval kingdom.

This seems to be the point of Hegel's observation already quoted that Montesquieu's theory of monarchy identifies it with the feudal kingdom. The point is confirmed in another way by the fact that Montesquieu's ideal of monarchy is the government of England at the end of the 17th century, which he says may be justly called a republic, disguised under the form of a monarchy. Locke's conception of the English government in his own day tends to clarify this point.

The form of a government says Locke depends upon the placing of the supreme power which is the legislative. When the power of making laws is placed in the hands of one man then it is a monarchy. But according to Locke the legislative and executive power are in distinct hands in all moderated monarchies and well framed governments.

What Locke here calls a moderated monarchy (intending to describe the government of England) seems to be the mixed regime, the form of government which Fortescue had earlier

called a polity. In the hands of the king, the nobles, and the commons, the legislative power is divided, and the executive power is entrusted to the king alone. If the king is a right vessel, he is merely as the law of the government.

absolute monarchy. If on the other hand the king were merely a representative, the government would be a republic.

The sovereign character of the king in a mixed regime seems to stem from his unique relation to the laws of the land. In one way he is above the laws and has certain powers not limited by law in another way, his whole power is limited by the fact that he does not have the power to make laws in his own right or authority. When a people are free and able to make their own laws, Aquinas writes, the consent of the whole people expressed by custom counts far more in favor of a particular observance than does the authority of the sovereign, who has not the power to frame laws except as representing the people. But Aquinas also says that the sovereign is exempt from the law as to its coercive power since properly speaking no man is coerced by himself and law has no coercive power save from the authority of the sovereign.

The coercive power of the law belongs to the sovereign as executive, not legislator. Admitting the king to a share in legislative power, Locke conceives his essential function—that which belongs to him alone—as executive. The absoluteness of this executive power, Locke defines in terms of the royal prerogative, that being nothing but a power in the hands of the prince to provide for the public good in such cases which depending upon unforeseen and uncertain occurrences, certain and unalterable laws could not safely direct. Prerogative he then goes on to say is the power to act according to discretion for the public good without the prescription of law and sometimes even against it.

Locke thus gives us a picture of the mixed regime in which the king's sovereign power is limited to the exercise of an absolute prerogative in performing the executive functions of government. In the executive sphere the king's power is absolute, yet his sovereignty is not absolute for in the legislative sphere he either has no voice at all where ancient customs prevail or in the making of new laws, he can count himself merely as one representative of the people among others.

The extent of the prerogative permitted the king depends upon the extent to which mat-

ters are explicitly regulated by law. When in the infancy of governments the laws were few in number, the government was almost all prerogative, as Locke sees it. He thinks that they have a very wrong notion of government who say that the people have encroached upon the prerogative when they have got any part of it to be defined by positive laws. For in so doing they have not pulled from the prince anything that of right belonged to him, but only declared that that power which they indefinitely left in his or his ancestors' hands to be exercised for their good was not a thing they intended him when he used it otherwise.

Here we see the seed of conflict between sovereign king and sovereign people in the combination of incompatible principles that constitute a mixed regime. As the king, jealous of his prerogative, tries to maintain or even extend his power, royal and political government tends toward absolute monarchy. As the people, jealous of their sovereignty, try to safeguard their legislative power from royal usurpations, the mixed regime tends to dissolve in the other direction. This happens as it moves toward republican government through various stages of limited or constitutional monarchy in which the sovereignty of the king becomes more and more attenuated.

When the king's prerogative includes the power of calling parliament into session, nothing short of revolution may resolve the issue, for as Locke observes, between an executive power in being with such a prerogative and a legislative that depends upon his will for its convening, there can be no judge on earth.

IN THE DISCUSSION of monarchy, as in the discussion of democracy or other forms of government, the fundamental terms and issues do not have the same meaning in the various epochs of western thought. The continuity of discussion in the tradition of the great books must be qualified especially in the field of political theory by reference to the differing historic institutions with which their authors are acquainted and concerned. Ancient and modern controversies over the merits of monarchy in relation to other forms of government seem to be comparing institutions of government as dif-

ferent as the ancient and modern forms of the democratic constitution.

In the ancient world the choice between purely royal and purely political government underlies the meaning and evaluation of monarchy. In the modern world, with its heritage from the feudal institutions of the Middle Ages, either the mixed regime or constitutional monarchy is thought to offer a third alternative. The praise of monarchy may therefore be the corollary of a justification of absolute government or the absolute state, as with Hobbes and Hegel. It may be accompanied by an attack on absolute or despotic power, as with Locke and Montesquieu, or in defense of purely republican principles, monarchy may be attacked as by Rousseau and the Federalists, without differentiation between its absolute and limited forms.

This does not mean that there is no continuity between ancient and modern discussion. It seems to exist with respect to both elements in the idea of monarchy—the unification of government through its having one head and the rightness of absolute power. On the point of unity, Plato's argument that monarchy is the most efficient of the several forms of government which are otherwise equally just, seems to be paralleled by modern arguments for a unified executive in the constitution of a republic. It is also reflected in the reasoning of Montesquieu and Rousseau concerning the greater competence of monarchies to govern extensive territories. On the point of absolute power, there is some continuity between ancient and modern discussions of government by men versus government by law. But here there seems to be greater similarity between ancient and modern arguments against giving sovereignty to an individual human being than there is between the modern defense of monarchy and ancient speculations concerning royal government.

Taking different shape in Hobbes and Hegel, the argument for the necessity of absolute government seems to be peculiarly modern. It is not simply the point made by the ancients that under certain circumstances it may be right for the man of superior wisdom to govern his inferiors in an absolute manner, as a father governs children or a god men. The point is rather that the very nature of government and the

state requires a unified repository of absolute power. Hobbes does not ask whether the monarch in whose hands such power is placed deserves this by reason of personal superiority to his subjects. Hegel explicitly repudiates the relevance of any consideration of the monarch's particular character. Neither Hobbes nor Hegel argues for the divine right of kings or their divine appointment, though Hegel does insist that the constitution itself, which establishes the supremacy of the crown, is not something made by man but divine and constant and exalted above the sphere of things that are made.

That kings have absolute power by divine right is another peculiarly modern argument for absolute monarchy. Not all the water from the rough rude sea, says Shakespeare's Richard II, can wash the balm off from an anointed king. The breath of worldly men cannot depose the deputy elected by the Lord. According to the theory of divine right, the king is God's vicar, not as Aquinas thinks, the vicegerent of the people. The theory of the divine right of kings does not seem to be a mediaeval doctrine. It appears later in such tracts as those by Barclay and Filmer, which Locke undertakes to answer.

The controversy involves its adversaries in dispute over the interpretation of Holy Writ. The anointing of Christian kings is supposed to draw its significance from the establishment of this practice among the ancient Hebrews. But the story of the origin of the Hebrew kingship can be given an opposite interpretation.

The people of Israel, after the leadership of Moses and Aaron, first submitted their affairs to the government of judges, and there was no king in Israel, but every one did that which seemed right to himself. Later they went to Samuel their judge, saying, Make us a king to judge us like all the nations. This displeased Samuel. Samuel prayed unto the Lord, and the Lord said unto Samuel, Hearken to the voice of the people in all that they say unto thee; for they have not rejected thee, but they have rejected me, that I should not reign over them. The Lord then describes the tribulations the people will suffer at the hands of an earthly ruler with absolute power: a punishment they deserve for wanting to be ruled by a king in

stead of by God and God's law administered for them by judges.

THE GREAT POEMS and histories of ancient Greece and Rome would seem to indicate that the divinity of kings is not a modern notion. The deification of emperors and kings certainly appears to be a common practice. But the assumption of divinity by kings is not supposed to signify divine appointment or election by the gods, nor do the rulers of the ancient world justify their absolute power as a god given right.

Furthermore, in the political theory of Plato and Aristotle, the analogy between royal rule and divine government works in the opposite direction. According to their view, the right to absolute government depends upon a radical inequality between ruler and ruled. If a god were to rule men on earth, as in the myth retold in Plato's *Statesman*, he would govern them absolutely, deciding everything by his wisdom and without recourse to written laws or established customs. If there were a god like man or if a true philosopher were to become king, he too would deserve to be an absolute monarch. It would be unjust, says Aristotle, to treat the god like man merely as a citizen, and so to treat him as no more than the equal of those who are so far inferior to him in virtue and in political capacity. It would also seem to be unjust for a man who does not have great superiority over his fellow men to rule them like a king, instead of being merely a citizen entitled to hold public office for a time.

Aristotle frequently refers to royal government as the divine sort of government, but he does not justify its existence except when one man stands to others as a god to men. Though some of the historic kingships which Aristotle classifies are absolute monarchies, none is royal government of the divine sort. That seems to remain for Aristotle, as for Plato, a purely hypothetical construction.

Actual royal government has a patriarchal rather than a divine origin. It is the kind of government which is appropriate to the village community rather than to the city state. The kingly form of government prevails in the village because it is an outgrowth of the family. That is why, says Aristotle, the Hellenic states were originally governed by kings; the Hellenic

were under royal rule before they came to gether — the barbarians still are

In thinking that absolute or despotic government befits the servile Asiatics but not the free men of the Greek city states Aristotle takes a position which has a certain counterpart in the views of Montesquieu and Mill. These modern opponents of absolute monarchy do not assert that constitutional government is unconditionally better than despotism. For certain peoples under certain conditions self government may not be possible or advantageous. A rude people Mill writes though in some degree alive to the benefits of civilized society may be unable to practice the forbearance which it demands their passions may be too violent or their personal pride too exacting to forego private conflict and leave to the laws the avenging of their real or supposed wrongs. In such a case a civilized government to be really advantageous to them, will require to be in a considerable degree despotic to be one over which they do not themselves exercise control and which imposes a great amount of forcible restraint upon their actions. Montesquieu seems further to suppose that different races—largely as a result of the climate in which they live—are by nature inclined to vary freedom or servitude. The Asiatics are for him a people whose spirit perpetually dooms them to live under despotism.

In contrast Mill's conditional justification of absolute government demands that despotism serve only a temporary purpose. It must seek not merely to keep order but by gradual steps to prepare the people for rules for self govern-

ment. Leading strings are only admissible he says as a means of gradually training the people to walk alone. When they have reached that stage of development where they are able to govern themselves the despotic ruler must either abdicate or be overthrown.

There is a deeper contrast between Mill on the one hand and Aristotle and Plato on the other one which goes to the very heart of the issue concerning royal and political government. Both Aristotle and Plato seem to be saying that if the superior or god like man existed then royal government would be better than the best republic even for the civilized Greeks. In calling royal rule the divine form of government they imply that it is the ideal even if it can never be realized. This Mill most emphatically denies.

The notion that if a good despot could be ensured despotic monarchy would be the best form of government I look upon he writes

as a radical and most pernicious conception of what good government is. The point at issue is not whether the good despot—the god like ruler or philosopher king—can be found. Suppose him to exist. The point then to be made is that the people ruled by one man of super human mental activity would of necessity have to be entirely passive. Their passivity is implied in the very idea of absolute power.

What sort of human beings Mill asks can be formed under such a regimen? Men must actually engage in self government in order to pass from political infancy to maturity. When ever it is possible representative or constitutional government is therefore better than absolute monarchy.

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5 The absolute government of colonies dependencies or conquered peoples

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Ilad* BK I [265 83] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAM S *Psychology* 116 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left-hand side of the page the letters c and d to the upper and lower halves of the right-hand side of the page. For example in 7 PLATO *Symposium* 163b 164 the passage begins in the lower half of the left-hand side of page 163 and ends in the upper half of the right-hand side of page 164.

**AUTHOR'S DIVISIONS** One or more of the main divisions of a work (such as PART BK CH SECT) are sometime included in the reference line numbers in brackets are given in certain cases e.g. *Ilad* BK II [265 283] 12d.

**BIBL. REFERENCES** The enclosures are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) *II Esdras* 7 46.

**SYMBOLS** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference. *passim* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Index* consult the Preface.

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  - 7 PLATO *Republic* BK IV 355a / *Statesman* 598b-604b
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38 MONTESQUIEU *Spirit of Laws* BK I 3b-c BK II 4a 8d 9a c BK III 12a 13c BK I 15a e BK V 26c 31b BK VI 33d 34b 39d 40d BK VIII 54a b BK XV 109a BK XII 137c d BK XXI 211c d

38 ROUSSEAU *Inequality* 359a II / *Social Contract* BK I 388b 389d

40 GIBSON *Decline and Fall* 26b 28b passim esp 27b c 50a 51c d 153c 155b passim

41 GIBSON *Decline and Fall* 73d 75a esp 74d 173c d 219c 220a c 307a c 317b d 320d 321b

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43 MILL *Liberty* 267d 268a 321a II / *Representative Government* 339c 341a 341d 344d passim

44 BOSWELL *Johnson* 120a II

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1b Modifications of absolute monarchy other embodiments of the monarchical principle

1b(1) The combination of monarchy with other forms of government the mixed regime

5 AESCHYLUS *Suppliants* 14a d [359-423] 5b-6b

6 THUCYDIDES *Peloponnesian War* BK II 391c d

7 PLATO *Law* BK III 671c 672c BK I 680d 681a BK VI 699d 700b

9 ARISTOTLE *Politics* BK II III 6 [1260b-1266 30] 461b d CH 9 [1270b-7 1271a-6] 466d 467c CH II 469a 470b

11 PLUTARCH *Lycurgus* 34d 35d

15 TACITUS *Annals* K IV 72a b

19 AQUINAS *Summa Theologiae* PART I Q 81 A 3 REP 2 430-431d

20 AQUINAS *Summa Theologiae* PART II Q 95 A 1 REP 2 226c Q 202 A 1 REP 2 226d 309d

23 MACHIAVELLI *Prince* CH X 27a b

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35 LOCKE *Civil Government* C I X SECT 132 55a II CH XIII SECT 151 152 59d 60b CH XIV 62b 64c CH XIX SECT 212 213 78a 76d esp SECT 213 76c d

38 MONTESQUIEU *Spirit of Laws* BK I 7c 8c BK V 32a BK XI 75b 78a

38 ROUSSEAU *Social Contract* BK III 410c d 414d 415b BK IV 427d

40 GIBSON *Decline and Fall* 26d 28b esp 28a b 342c 630d

41 CROMWELL *Decline and Fall* 71d 81c d 717d 219a 403b c 428a

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- 15(2) Constitutional or limited monarchy
- 7 P ATO *Statesman* 598b-604b / *Laws* BK III 667c d  
 9 ARISTOTLE *Politics* BK III CH 14 [1285<sup>b</sup> 3 16] 483a b CH 15 [1285<sup>b</sup> 34 1286<sup>a</sup>] 484b CH 15 [1286<sup>a</sup> 27] CH 16 [1287<sup>a</sup> 10] 485b c BK IV CH 10 [1295<sup>a</sup> 15 17] 495a BK V CH 11 [1313 18 33] 515d 516a / *Rhetoric* BK I CH 8 [356 i 13] 608b c  
 23 HO BBS *Leviathan* PART II 106d 107c  
 35 LOCKE *Civil Government* CH VII SECT 44 46a = CH XVIII 3 CT 200 71a-c pa sim  
 40 GIBBON *Decline and Fall* 622d 623a  
 42 KANT *Science of Right* 439 440b 441b c  
 43 MILL *Representative Government* 343c 344a  
 46 HEGEL *Philosophy of Right* PART III pa 273 90 92a par 281 95b d par 283 284 96a b par 286 96c 97a par 292 293 98a b par 300 100b ADDITIONS 170-17 145d 146d / *Philosophy of History* PART I 208b c PART IV 342b d 356c d
- 15(3) The monarch cal princ pl in the execution of each of repub can government
- MONTESQUIEU *Spirit of Laws* BK VI 72b  
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 43 FORD & LIST NUMBER 37 118d 119b NUMBER 48 157b NUMBER 7 203b 205b NUMBER 69-70 207a 214b pass m  
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- 1c The principle of succession in monarchy as
- OLD TESTAMENT *Judges* 8 2 9 / *I Kings* 1 3 23 1—  
 (D) III Kings 1 / *I Chronicles* 1 3 23 1—  
 (D) *I Paralipomenon* 11 1 3 23 1  
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 6 HODGKINS *History* BK V 167b 168a BK I 194d 195b 196d 199a BK VII 214b d 252e 253  
 9 ARISTOTLE *Politics* BK III CH 15 [1286<sup>a</sup> 22 28] 485a  
 14 PLUTARCH *Numa Pompilius* 49b 52c / *Pyrrhus* 318a / *Lysander* 363d 366a / *Ageilaus* 480b d 482a / *Agamemnon* 538b d 539a  
 15 TACITUS *Annals* BK I 193 194a  
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 23 HOBBS *Leviathan* PART II 106b d 107b 108a 109  
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 33 P. SAL. *Penitus* 3 229b 230a
- 35 LOCKE *Civil Government* CH X SECT 132 55a b  
 38 MONTESQUIEU *Spirit of Laws* BK V 28b d BK XXVI 222b d  
 38 ROUSSEAU *Social Contract* BK III 413d 414a  
 39 SMITH *Wealth of Nations* BK I 1 165c 166a  
 40 GIBBON *Decline and Fall* 30b c 61b c 68b d 69b 161c 430b c  
 41 GIBBON *Decline and Fall* 194a b 201b 205a 212d 213c 223c d 445b 508c d  
 44 BOSWELL *Joh son* 347d 348c  
 46 HEGEL *Philosophy of Right* PART III par 280-281 94d 95d par 286 96c 97a / *Philosophy of History* PART IV 325a = 344c 355c d
- 2 The theory of royalty
- 2a The divinity of kings
- APOCRYPH *Iudith* 6 2—(D) OT *Judith* 6 2 / *Wisdom of Solomon* 14 16-21—(D) OT *Book of Wisdom* 14 16-21  
 4 HIERON *Idae* BK I [254 287] 5d 6a  
 5 Aeschylus *Pericles* [623-680] 21c 22a  
 13 VIRGIL *Elogium* 1 [6-9] 3 IV [15 i 1] 14b v [0-80] 16b 18b v [46-49] 30b / *Georgics* 1 [24 42] 37b 38a / *Aeneid* BK I [286-296] 110b 111a BK VI [791-805] 232a b BK VIII [126-142] 262b 263a  
 14 PLUTARCH *Romulus* 28a 29c / *Numa Pompilius* 50b 52c / *Alexander* 553b-554b  
 15 TACITUS *Annals* BK I 4c d BK IV 73b d 80c d  
 23 HOBBS *Leviathan* PART I 82b c  
 26 SHAKESPEARE *Richard II* ACT V SC I [162 242] 343b 344a  
 27 SHAKESPEARE *Hamlet* ACT IV SC V [123 125] 60d 61a / *Pericles* ACT I SC I [103 i 4] 422d  
 40 GIBBON *Decline and Fall* 28b d 151d esp 712c [n 100]
- 2b The analogy between the government and rule by the best man the philosopher king
- 7 P ATO *Republic* BK II VII 310 401d sp BK V VI 368c 383a / *Statesman* 586c 590a 593b-604b / *Laws* BK IV 679 681d / *Seventh Letter* 801b 806b =  
 9 ARISTOTLE *Politics* BK I CI 12 [259<sup>b</sup> 10-17] 454 BK III II 3 [183 18] 482a b [184 25 34] 482d-483a CH 15 484a-485b CH 7 [289<sup>a</sup> 7 34] 486d 487 BK VII CH 4 [133<sup>a</sup> 16-26] 537b c  
 14 PLUTARCH *Lycargus* 47a-48c / *Numa Pompilius* 50b 52 59c 60b / *Themistocles* 99b c / *Phocion* 605b d / *Dion* 784d 785a  
 19 AQUINAS *Summa Theologiae* PART I Q 103 A 3 530a-c  
 23 HOBBS *Leviathan* PART I 164c  
 30 H. COV. *Admiration of Learning* 20d 21a 74d 75a



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31 SPINOZA *Ethics* PART II PROP 3 SCHOL 374b c

35 LOCKE *Civil Government* CH XIV SECT 165-166 63c 64a

36 SWIFT *Gulliver* PART I 28b 29a

40 GIBSON *Dine and Fall* 338d 339a

43 FEDERALIST NUMBER 49 160a

2c The divine institution of kings the theory of the divine right of kings

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14 PLUTARCH *Luma Pompili* 50b 51c

23 HOBBS *Leviathan* PART II 112b 112b 123a b PART III 225c d

26 SHAKESPEARE *Rich d II* CT 1 SC II [3 43] 323a ACT II SC I [54-62] 336a SC III [2 10] 338c d ACT IV SC I [2 242] 342c 344a

35 LOCKE *Civil Government* CH I SECT 1 25a CH VI SECT 112 51a b CH X SECT 231-239 78c 81b

36 SWIFT *Gulliver* PART I 29a PART IV 182b

37 FIELDING *Tom Jones* 258 269a

38 ROLSE *Iniquity* 358d 359a

40 GIBSON *Dine and Fall* 33b-c 292d 293b esp 759d [n 22]

41 GIBSON *Dine and Fall* 204d 205a 209c

46 HEGEL *Philosophy of Right* PART III par 2 9 93d

51 TOLSTOY *War and Peace* EPILOGUE II 680b c

2d The myth of the royal personage the attributes of royalty and the burdens of monarchy

OLD TESTAMENT *Judg* 9 20 / *I Kings* 34 13 10 / *Proverbs* 14 28 2 2 2 1 25 3

APOCRYPHA *II d m of Solomon* 9 1-6--(D) OT Bo k f s dom 1-6 / *Ecclesiastes* 10 10-18 11 5 40 1 4--(D) OT *Ecclesiastes* 10 10 12 22 11 5 40 1 4

4 HOMER *Iliad* BK III [161 224] 20c 21b BK IV [96-114] 58a b

5 SOPHOCLES *Oedipus the King* [5 1-602] 101c d

5 EURIPIDES *Medea* [115 130] 213b / *Iphigeneia at Aulis* [12 33] 425b [442 453] 428d 429a

6 HERODOTUS *History* BK I 7b 8a BK II 83d 86b BK III 93c BK VIII 281d 282a

7 PLATO *Laws* BK III 669b 674d

9 ARISTOTLE *Ethics* BK VIII CH 7 [1159-1159 9] 410d 411a CH II [1161 11 23] 413b-c / *Politics* BK III CH 13 [1284 3 18] 482a b [1284-1285 34] 482d 483a BK V CH II [1314 3 1315-1315] 517b-518c

12 LUCRETIVS *Nature of Things* BK V [136-1141] 76a

12 AURELIUS *Mediations* BK I 253a 256d BK VI SECT 36 282b

14 PLUTARCH *Romulus* 27c 28d / *Luma Pompili* 51b c / *Pericles* 121c d / *Alexander* 540b d 576d *passim* / *Cleomenes* 661b d / *Tiberius Gaius* 678b d / *Demetrius* 697c / *Demetrius* 727a b 732a-c 742c 743b / *Artaxerxes* 835b c / *Artaxerxes* 847b d

15 TACITUS *Annals* BK III 52c 52a b BK I 73b 74a BK X 104a c / *Historiae* BK I 193a b BK I 224c d

23 MACHIAVELLI *Prince* la b

24 RABELAIS *Gargantua and Pantagruel* BK I 35a 36a 58a 59d BK III 131b d 133b

25 MONTAIGNE *Essays* 126b-131a 311c 327d 329d 436 4 9 443d-446a 451d 452a

26 SHAKESPEARE *Henry VI* ACT I SC II [29-34] 73b ACT II SC V [1-54] 81d 82a ACT II SC I [61-65] 83b / *Richard II* 320 351d esp ACT III SC II [27-90] 335d 336b [144 1 7] 337a b SC III [61 209] 338c 340a ACT IV SC I [162 334] 343b 345a / *Henry VI* ACT IV SC I [203-214] 396d / *Henry VI* ACT IV SC I [184 197] 427c / *Henry VI* ACT III SC II [29-91] 453b d / *Henry VI* ACT III SC I [31] 482d 483a ACT IV SC V [19-47] 494c d ACT V SC II [122 145] 499b / *Henry VI* ACT IV SC I [104 105] 553d 554c

27 SHAKESPEARE *Hamlet* ACT I SC III [10-28] 34c ACT III SC I [1 23] 53b-c / *Henry VI* 244a 283a c / *Macbeth* ACT V SC VII [16-25] 289c / *Antony and Cleopatra* 311a 350d

28 MARVEL *Motion of the Heart* 267a b

30 BACON *Advancement of Learning* I 2c 20d 25c / *Advancement of Learning* 205d 207b

32 MILTON *Paradise Lost* BK II [430-455] 120b 121a

33 PASCAL *Pensées* 139 196b 199a 303 228b

35 LOCKE *Civil Government* CH XVII SECT 202 71d 72a *passim* SECT 2 5 206 72 = CH IX SECT 224 76d 77a

38 MONTAIGNE *Spinoza* BK III 8d 9 c BK III 12a 13c ACT IV 15a b BK V 26c 29a BK VI 39d 42a b 43c d BK XI 93d 94 94d 95b

38 POUSSIEU *I equal ty* 358d 359c / *Social Contract* BK III 412d-413a 414c d

39 SUTS *Health of Nation* s BK V 356b d

40 CIBRON *D ch a d I II* 28b 154b 155b 156b-157d 329c 547a 572a 572a 572a

41 GIBON *Decline and Fall* 39b-40a 194a d 297c-d 307b-c 317b 321b

43 FEDER. LIST NUMBER 67 203b-c INUMBER 69 207c 210a NUMBER 70 213b

43 MILL *Liberty* 275b c / *Representative Government* 341d 342b 363b d

44 BO WELL *Johnson* 125c 154c 155 155d 216b 215b d 333b 335c 344a 344a

46 HEGEL *Philosophy of Right* ART III par 281-282 95b 96a ADDITIONS 173 146d

47 GOETHE *Fust r RT* [2.11 44] 52b 53b PART II [476i 4875] 118b 121a [10 24 29] 249b-250a [10 455-500] 254b 255b

48 MELVILLE *Moby Dick* 81a 82b 93b 94a 107 109b 395a 395a

51 TOLSTOY *War and Peace* BK I 1d 2b 49b BK II 87b-d BK III 135c 137c 141b 142d 147c 150a 157a 161b BK V 230b 234a BK VI 257c 259a passim BK VII 308d 309a BK IX 342a 346 348c 349 382a 388a c BK X 405b-406 444a-450a 456a-459d 465c 468a c BK XI 497c-499c 518c d BK XII 536 537b BK XIII 573b 574b

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3a The good king and the benevolent despot  
n th service of their subjects the education of the prince

OLD TESTAMENT *Gen s* 41 33 39-40 / *Exodus* 18 21 6 / *Deuteronomy* 1 13 7 14-20 / *I dgs* s 9 8 15 / *I S muel* 15 0-35-(D) *I Kings* 15 10-35 / *II S muel* 23 3-(D) *II Kings* 23 3 / *I Kings* 4 29-34 11 26-4 14 2-(D) *III King* 4 29-34 11 26-4 14 0 / *II Chronicles* 5 7-12-(D) *II Pa a* *I p men n* 1 7 / *Palms* 2 esp 2 10-12 72-(D) *Palms* - esp 2 10-3 71 / *Proverbs* 8 15 16 4 28 35 16-10-15 77 20 26 28 25-25 28 2 15 16 20-2 4 12 4 31 4-5 / *Ecclies* s 10 4 7 6-17 / *Jerem* h 23 3 6-(D) *Jerem* s 33-4 / *E ccl* el 45 9-(D) *E ccl* i 45 9

APOC Y H A I sd rt of S lom 1 1 6 9-(D) OT B h f l w d m 1 6 9 / *Ecclies* iusticus 10 1 4 4 41 77 8-(D) OT E l iust cu 10 1 4 17 4 2 22 / *I Ma cubees* 14-(D) OT I Ma h b c 14

4 HOMER *Il d* h x [1 72] 57a 58d

5 A S IYULS *Suppliant M dens* [359-42] 5b 6b / *Per n s* [647-68] 21d 22a [759-786] 23b-m

5 S PHOCLES *O d pus th* h g [ -77] 99 d / *Ant gone* [ 6 2 ] 132 d [658 745] 136d 137c

5 EUCLID *Suppl a s* [339-358] 261b-c / *Iph gen at Aul* [334 375] 427d-428b

6 HERODOTUS *II story* BK III 108b c

7 PLATO *Republic* K I 303a 304c BK II IV 316a 356a BK VI VII 383c 401d / *St tesman* 598b 608d / *La s* BK IV 679c 680d / *Seventh Letter* 801b 806b c 814b c

9 ARISTOTLE *Eth cs* BK VIII CH 10 [1160 36-9] 412 d CH 11 [ 61 11 23] 413b-c / *Pol i cs* BK I CH 13 454a-455a passim BK III CH 14 [1285 3 19] 483d 484a CH 15 484b-485b passim esp [ 1 86 8 12] 484d-485a CH 18 487a 487a CH 10 [1310 33 1311 8] 513b CH 11 [1314 37-43] 515b-518c

11 ARISTOTLE *Med tations* BK I 253a 256d

14 PLUTARCH *Lycurgus* 32a-48d esp 47 48c / *Solon* 64b d 77 c sp 68d 70d / *P phicola* 80d 81c / *Popl cola Solon* 86d 87a / *Pericles* 129 141a c esp 129c 130a / *Ager* l s 480b d 481a / *Alexander* 542d 544a / *Phoc on* 605b d / *Demetrius* 742c 743b / *Dion* 782c 788b

15 TACITUS *An als* BK VII 125d 126a / *H s tori* BK I 198b c BK II 215c d BK IV 290a d

20 AQUINAS *Summa Theologica* PAR I II Q 105 A I RE - 307d 309d

21 D VIT *Duane Comed* PURGATORY VII [61-176] 63a 64 x [70-96] 68a b PARADISE VIII [88-111] 126b c

23 HO *Lesi sfan* INTRO 47b d PART II 143d 153a 159c 164 c

24 RA L IS *Gargantua and Pantagruel* BK I 26d 30c

25 MONTAIGN *Ess ys* 131b 132a 314c 316a 386b 388c 436 439c

26 SHAKESPEARE *Jul H nry IV* 434a-465d esp ACT I SC II [ 8 240] 437 -d ACT I SC II [93 6] 453d 454c / *2nd Henry IV* 467a 502d esp ACT V SC II [122 142] 499b / *Henry V* ACT I SC I 533a d ACT IV SC I [ 1 4-321] 552d 554d

27 SHAKESPEARE *Ri g Lear* ACT III SC I [27-36] 264c / *Macbeth* ACT V SC III [1-139] 303b 304d

29 CERVANTES *Don Quixote* PART II 340b 343a 345a 348 352b 356d 360d 364a 366d 369b

30 M CON *Adia cement of Lear* g 1b 2c 20d 25 74d 75 94b 94b / *New Ail nti* 20 d 207b

35 LOCKE *Cu l Government* VII SE T 94 46 CIVILIS SERCT 5-112 48c 51b passim c xv v 62b 64c CIVILIS ECT 0 71a s CT 20 71d 72a

36 SWIFT *Gull er F RT III* 112 113b

37 FIDELITY *T m Jones* 268 269a

38 MONTAIGN *Qui u Spr it of La us* BK IV 14d K VII 93c 95b

38 ROUSSEAU *I qu lity* 357b / *Social Contract* BK III 412d-414d

40 GIBON *D line d Fall* 31b 32d 50a b 85d 86a 260a b 284a 288b 289a 338d 340c 341d 342c 343c 344 c 448c-449c 577 580d esp 577d 578a 608 646d passim

- (3) *The use and abuse of monarchial power*  
 3a *The good king and the benevolent subjects*  
 1 of the prince)

- 41 GIBSON *Decline and Fall* 102b 104b 176c d  
 504c 505c  
 43 MILL *Representative Government* 342a 344d  
 351c 354b  
 46 HEGEL *Philosophy of Right* ADDITIONS 171  
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 51 TOLSTOY *War and Peace* BK I 9c 10d

- 58 The exploitation of absolute power for  
 personal aggrandizement the strategies  
 of princes and tyrants

- OLD TESTAMENT I *Samuel* 8 11 18—(D) I  
*King* 8 11 18 / II *Samuel* 1 6—12 13—(D)  
 II *King* 12 6—12 13 / I *King* 12 1 15 21—  
 (D) III *King* 12 1 15 21 / II *Chronicle* 10—  
 (D) II *Psalm* 10 / *Isaiah* 2 23 3 4  
 15 10 1 3 14 4—(D) I *Isaiah* 2 23 3 14 15  
 10 1 3 14 4—(D) *Jeremiah* 22 1 23 2—(D)  
*Jeremiah* 2 1 23 2 / *Psalms* 1 22 27 46 8—  
 (D) *Ecclesiastes* 1 22 27 46 18 / *Daniel* 3 1 12  
 6 7—8 / *Maccabees* 3 3 7 3 4—(D) *Maccabees*  
 3 1 3 7 3 4 / *Zephaniah* 3 3—(D) *Sophonia*  
 3 3

- APOCRYPHAL *Judith* 2 1 12—(D) OT *Judith*  
 2 1—6 / *Ecclesiastes* 8 2—(D) OT *Ecclesiastes*  
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 5 EURIPIDES *Iphigenia at Aulis* 1334 3751 427d  
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- 6 HERODOTUS *History* BK I 23b 24a 35b 37a  
 BK III 107c d

- 7 PLATO *Republic* BK I 301b 304c BK II 311b  
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 682c / *Seventh Letter* 811b 813d

- 9 ARISTOTLE *Ethics* BK I CH 6 [134 30—8]  
 382a b BK VIII CH 10 [1160 36—b] [412c d  
 [116 23 33] 413a / *Politics* BK CH 0  
 [129 18 23] 495a b BK V C 0—11 512d  
 518c / *Rhetoric* BK I C 18 [366 3—6] 608b

- 14 PLUTARCH *Pyrrhus* 319b d / *Agamemnon* 482a  
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*Demetrius* 742c 743b

- 15 TACITUS *Annals* BK I 1a 5a BK II 58d 59a  
 / *History* BK I 195a 197b c

- 20 AQUINAS *Summa Theologiae* PART I II Q  
 105 A1 RE 2 5 307d 309d

- 21 DANTE *Divine Comedy* HELL XXVII [55 136]  
 40a—41b PURGATORY VI [58 151] 612b—62c  
 XX [34—96] 83c 84a = RADISE X [185 148]  
 136b c

- 22 MACHIAVELLI *Prince* 1a 37d

- 23 HOBBS *Leviathan* PART I 76d

- 25 MONTAIGNE *Essays* 51a 55d

- 26 SHAKESPEARE *In Henry VI* 1a 32a c / *2nd*  
*Henry VI* 1a 33a 68d / *3rd Henry VI* 69a 104d  
 105a c ACT II SC VI [1 3] 83b c ACT III C 1

- [124 195] 87c 88a / *Richard III* 105a 148a c /  
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 27 SHAKESPEARE *Macbeth* 284a 310d

- 35 LOCKE *Civil Government* CH VII SECT 90—94  
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- 36 SAIFT *Gulliver* PART I 37a b  
 38 ROUSSEAU *Inequality* 357a c 359b c / *Social*  
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- 40 GIBSON *Decline and Fall* 25a 26d 26b c  
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- 41 GIBSON *Decline and Fall* 39b—40b 113c  
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- 43 DECLARATION OF INDEPENDENCE 1a 3b

- 43 FEDERALIST NUMBER 4 35b NUMBER 24  
 83c NUMBER 75 223c d

- 43 MILL *Representative Government* 366a c

- 46 HEGEL *Philosophy of History* PART III 300c  
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- 51 TOLSTOY *War and Peace* BK I 9c 10d

- 4 Comparison of monarchy with other forms  
 of government

- 6 HERODOTUS *History* BK III 107c 108d

- 7 PLATO *Republic* BK IV 356a BK VIII 401d  
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- Another discussion of government in relation to the wealth and territorial extent of the state see STATE 4a-4c WEALTH 9f
- Matters relevant to the theory of the royal prerogative see GOVERNMENT 3c LAW 7c
- The controversy concerning the legitimacy or justice of absolute monarchy and for the statement of the issue in terms of the doctrine of natural rights and popular sovereignty see CONSTITUTION 3b DEMOCRACY 4b GOVERNMENT 1g(1)-1g(3) JUSTICE 9c-9d LAW 6b 7b LIBERTY 1d 1g STATE 2c TYRANNY 5a-5c
- Matters relevant to the justification of absolute rule when it takes the form of a benevolent despotism see DEMOCRACY 4d GOVERNMENT 2c PROGRESS 4b SLAVERY 6b-6c TYRANNY 4b
- The issues concerning imperialism as a form of absolute rule see GOVERNMENT 5b LIBERTY 6c REVOLUTION 7 SLAVERY 6d STATE 10b TYRANNY 6

## ADDITIONAL READINGS

Listed below are two books not included in *G* at *Books of the Western World* but relevant to the ideas and topics with which this chapter deals. These books are divided into two groups

- I Two books by authors represented in this collection  
 II Two books by authors not represented in this collection

For the details and other facts concerning the publication of the two books cited consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*

## I

PLUTARCH *Of the Three Systems of Government—Monarchy Democracy and Oligarchy* in *Mo*  
*ria*

AQUINAS *On the Government of Rulers*

DANTE *On the Government of Monarchs*

F B CON *Of the True Greatness of Kings and*  
*and Estates in Essays*

MELTON *The Temptations of Kings and Magistrates*

— *Definition of the People of England*

HOBBS *Behemoth*

HOVZA *The Political Constitution (Political Treatise)* CH  
 6-7

B RKELEY *Passive Obedience*

## II

D M THENE *Philipp*

— *De Corona (Of the Crown)*

BRACON *De Legibus et Constitutionibus Anglicanis*  
*(Of the Laws and Customs of England)*

MARSIGLIUS OF PADUA *Defensor Pacis*

WYCLIFFE *Tractatus de Officio Regis*

PORTESCU *Glosses on the Laws of England*

ERASMUS *The Education of a Christian Prince*

CANTILLONE *The Book of the Courtier*

LA BOETIE *Anti-Dictatorship: The Servitude of the Soul*

BODIN *The Six Books of a Commonwealth*

BELLARMINE *The Treatise on Civil Government (De*  
*Laici)*

M BLOWE *Editor of the Second*

HOOKER *Of the Laws of Ecclesiastical Polity*

MARIANA *The Kingdom of the Educated Prince*  
*King*

W B RCLAY *De Regno*

JAMIS *The Law of the Monarch*

— *An Apology for the Obedience of Allegiance*

— *A Preliminary to all Christian Monarchies*  
*Principles and State*

— *A Defence of the Rights of Kings Against*  
*Cardinal Perron*



- CAMPANELLA *A Discourse Touching the Spanish Monarchy*  
 CORNEILLE *Cinna*  
 FRYAUE *The Sovereign Power of Parliaments and Kingdomes*  
 HUDSON *The Divine Right of Government*  
 FILMER *The Anatomy of a Limited or Mixed Monarchy*  
 ——— *Patria est*  
 SEVIGNÉ *Letters*  
 BARROW *A Treatise of the Popes Supremacy*  
 BOSSUET *Piquet de des propres paroles de l'Écriture Sainte*  
 ASIDNEY *Discourses Concerning Government*  
 VOLTAIRE *King in a Philosophical Dictionary*  
 BURKE *Reflections on the Revolution in France*  
 PAINE *Common Sense* II  
 ——— *Rights of Man* PART I  
 MAISTRE *Du pape*  
 PUSHKIN *Boris Godunov*  
 BAGEHOT *The English Constitution*  
 FRAZER *The Golden Bough* PART I PART II CH I  
 ——— PART III CH 2-5  
 FICUS *Theory of the Divine Right of Kings*  
 MAURRAS *Enquête sur la monarchie*  
 HOCART *Kinghip*  
 BRUSSELL *Poiet* CH 5  
 AL CARLYLE *Political Liberty*

## Chapter 60 NATURE

### INTRODUCTION

NATURE is a term which draws its meaning from the other terms with which it is associated by implication or contrast. Yet it is not one of a fixed pair of terms like necessity and contingency, one and many, universal and particular, war and peace. When things are divided into the natural and the artificial or into the natural and the conventional, the opposite of the natural does not represent a loss or violation of nature, but rather a transformation of nature through the addition of a new factor. The unnatural, on the other hand, seems to be merely a deviation, a falling away from, or sometimes a transgression of nature.

Most of the terms which stand in opposition to nature represent the activity or being of man or God. As appears in the chapter on Medicine, Galen thinks of nature as an artist. Harvey later develops this notion. But with these two exceptions, the traditional theory of art conceives it not as the work of nature, but of man. Despite other differences in the great books on the theory of art, especially with regard to art's imitation of nature, there seems to be a common understanding that works of art are distinguished from productions of nature by the fact that man has added something to nature. A world which man left exactly as he found it would be a world without art or any trace of the artificial in it.

The ancient authors who contrast the natural and the conventional and the modern authors who distinguish man's life in a state of nature from his life in civil society seem to imply that without something done by man there would be nothing conventional or political. Locke appears to be an exception here. He thinks that there is a natural as well as a civil or political society. Natural society is the society of men living together according to reason without a common superior on earth with authority to

judge between them. Unlike Hobbes or Kant or Hegel, Locke does not think that the state of nature is necessarily a state of war. But this difference between Locke and others does not affect the point that the political institutions of civil society are things of man's own devising.

There may be among the social insects natural organizations such as the bee hive and the ant mound. It may even be, as Locke supposes, that in a state of nature, men living together according to reason would constitute a society. But in neither case does the society we call a state result. States differ from one another in many features of their political organization. In this sense the state or political community is conventional rather than natural; its institutions are humanly contrived.

The social contract theory of the origin of the state is not necessarily involved in the recognition that the state is partly conventional. Aristotle, for example, who regards the state as natural—he speaks of it as a creation of nature—does not think of the political community as natural in the sense in which a bee hive is natural. That men should form political communities is in his view the result of a natural desire, a tendency inherent in the nature of man as a political animal. But what form the political community will take is at least partly determined by the particular arrangements men voluntarily institute. Man-made laws are conventional, but so also are other institutions which vary from state to state or change from time to time.

THE ISSUES IN political theory raised by any consideration of what is and is not natural about society or the state are discussed in other chapters, e.g. FAMILY and STATE. What is true in this connection is likely to be true of each of the other fundamental oppositions in which

the notion of nature is involved. The issues raised by the relation of art to nature are for example considered in the chapter on ART; those raised by the distinction between nature and nurture are considered in the chapter on HABIT and so on. Here we are concerned not with the theoretical consequences of different conceptions of nature but with the various meanings of the term itself as it is used in different contexts.

Common to all meanings is the notion that the natural is that which man's doing or making has not altered or enlarged. The distinction between nature and nurture confirms this. Man's activities are the source of modifications in his own nature as well as in the nature of other things. The human nature man is born with undergoes transformations in the course of life: the acquirement of knowledge, the formation of habits (which are often called second nature), the modification of instincts. The sum of these changes represents what nurture adds to nature.

When changes of this sort are looked at collectively they give rise to the notions of culture or civilization—two more terms which present a contrast to nature. In Rousseau and others we meet the feeling that man may have lost not gained by exchanging the natural for the civilized life. The ideal of a return to nature involves more than a return to the soil or an exodus from the city to the country. In its most radical form this ideal calls upon man to divest himself of all the artifices and concerns with which he has thought to improve on nature—by renouncing its advances. Rousseau says in order to renounce its vices.

But why, it may be asked, is the whole world which man creates not as natural as the materials which man finds to work with—the resources of physical nature and the native equipment which is man's nature at birth? If man himself is a natural entity and if all human activities are somehow determined by human nature then why are not the works of art and science, the development of political institutions, the cultivation of human beings by education and experience and all other features of civilization—why are not all these just as natural as the falling stone, the flourishing forest or the bee-hive? Why, in short, should there be any

contrast between the works of nature and the works of man?

THIS QUESTION points to one of the fundamental issues in the traditional discussion of nature. Those who uphold the validity of the contrast defend its significance in terms of something quite special about human nature. If man were entirely a creature of instinct—if everything man did were determined by his nature so that no choices were open to him and no deviation from the course of nature possible—then the human world would seem to fade into the rest of nature. Only on the supposition that man is by nature rational and free do those human works which are the products of reason or the consequences of free choice seem to stand in sharp contrast to all other natural existences or effects of natural causes.

Of these two factors—rationality and freedom—the element of freedom is usually the one most emphasized. The line is drawn between that which natural causes determine and that which man determines by his own free choice. The laws of nature are often conceived as expressing an inherent rationality in nature itself but they also state the uniformity of nature's operations. Such maxims of nature as 'nature does nothing in vain' or 'nature abhors a vacuum' or 'nature does nothing by jumps' are usually interpreted as describing nature's invariable way of doing things. Aristotle's distinction between things which happen naturally and those which happen by chance turns on the regularity of the events which result from causes in the very nature of things. The natural is that which happens either always or for the most part.

Hence even if there is rationality of some sort in the structure of nature that supposition does not seem to affect the position of those who connect human reason with human freedom and who in consequence divide the things which happen as a result of man's free choice from everything else which happens in the course of nature. This may be exemplified by the Greek understanding of the difference between nature and convention. The laws of Persia vary from the laws of Greece; the political institutions of the city states vary from those of the Homeric age; customs and consti-

tutions differ from city to city. Unlike such conventions that which is by nature, Aristotle writes, is unchangeable and has every where the same force: as fire burns both here and in Persia. The conventional is the variable, the natural, the uniform. The variability of conventions moreover seems to suggest that they are products of freedom or choice.

The difference between the bee-hive and the human city is that one is *entirely* a creation of nature, a social organization entirely determined by the instincts of the bees, so that wherever bees form a hive it is formed in the same way, whereas the human city involves something more than a natural desire of men: since when these political animals associate in different places they set up different forms of government and different kinds of law. The same comparison can be made between the spider's web or the beaver's dam and such products of human art as cloth and houses. The variability of the works of reason, as opposed to the uniformity of instinctive productions of all sorts, implies the factor of choice in reason's work.

THE CONCEPTION OF nature which tries to separate the natural from what man contributes thus seems to depend upon the conception of man. Controversies concerning man's difference from other animals, especially the dispute about human freedom (considered in such chapters as MAN and WILL) bear directly on the issue of the naturalness of the things which result from man's doing and making.

Spinoza, for example, in holding that human actions constitute no exception to the reign of necessity throughout nature, removes any ground for distinguishing the effects of human operation from other effects. Man exercises no freedom of choice, nor does man in any other way introduce a new principle into the order or process of nature. Hobbes and Locke concur in the denial of free will, but they separate the inventions of man's mind or his social institutions from what happens without human contrivance in the realm of thought or action. The difference between simple and complex ideas for Locke seems to parallel the ancient distinction between nature and art.

At the other extreme from Spinoza, Kant

separates the order of nature and the order of freedom into worlds as radically asunder as the Cartesian realms of matter and mind. The world of nature is the system or order of the objects of sense—the sum total of phenomena insofar as they are connected with each other throughout. For Kant this means two things which are strictly correlative. Nature is the object of the theoretic sciences and it is also the realm of time, space, and causality. Like Spinoza, Kant identifies the order of nature with the order of causal necessity. But unlike Spinoza, Kant places the moral and political life of man in an order unconditioned by time, space, and causality. This realm of freedom is the sphere of the moral or practical sciences. The natural or theoretic sciences do not extend to what Kant calls the supersensible or the noumenal order—the world of things lying outside the range of sense experience.

There is an alternative to Spinoza's location of all events within the order of nature and to Kant's separation of the realm of nature from the domain of freedom. It takes the form of Aristotle's or Aquinas' distinction between the natural and the voluntary. The voluntary is in one sense natural, in another not. It is natural in the sense that what happens voluntarily in the realm of animal and human motions proceeds from causes as natural as those responsible for the motions of inert bodies. A voluntary act according to Aquinas comes from an intrinsic principle, just as the falling of a stone proceeds from a principle of movement in the stone. But among the factors responsible for voluntary acts is knowledge of the end—knowledge of the object being sought. The sphere of the voluntary can therefore be equated with the sphere of conscious desire, i.e. with desire aroused by an object known whether known by sense or reason. The natural in the sense in which it is distinguished from the voluntary is the sphere of motions in line with natural desire, i.e. with tendencies founded in the very nature of a body or organism and unaccompanied by any awareness of the goal toward which it is thus inclined to move.

Aristotle's distinction between natural and violent motion (which Galileo and other physicists adopt) seems to throw light on a double

use of the term *natural* here Galileo treats the motion of a freely falling body as *natural* in contrast to the motion of a projectile. In the former case it is the nature of heavy bodies to gravitate toward the earth whereas in the latter case in addition to the motion of gravitation another motion is imparted to the body when it is shot from a gun—a motion which does not proceed from the body's own nature but is caused by the motions of other bodies. In terms of this distinction voluntary motions are *natural* rather than *violent*. In fact the violent is sometimes thought to be even more opposed to the voluntary than to the *natural* in the sense that a man acting contrary to his will under external coercion suffers violence. When he does what he wishes his conduct is not only voluntary but *natural* i.e. free from the violence of external forces.

It is necessary to consider the additional distinction between the voluntary and the free. Animals acting from desires caused by the perception of certain objects act voluntarily but in the theory of Aristotle and Aquinas only men freely choose among alternative objects of desire or between means for accomplishing an end. The effects of voluntary action differ from other natural events only because knowledge enters into their determination. But that which happens as the result of man's free choice is determined neither by his nature nor by his knowledge. Hence whatever comes into existence through man's choice stands apart from all that is naturally determined to exist.

One other matter bears on this consideration of the *natural* in relation to the voluntary and the free. Spinoza excludes the operation of final causes as well as free choice from the order of nature. Purposes or ends are not principles of nature. Aristotle on the other hand thinks that final causes are operative in every part of nature. He finds them in the sphere of inert bodies which naturally tend toward certain results. He finds them in the sphere of animal and human motions where the final cause or end may be an object of conscious desire.

So far as the search for causes is concerned nature presents the same kind of problems to the physicist as to the biologist or psychologist. In only one sense are final causes peculiarly pres-

ent in human conduct that is the sense in which the change effected is not the ultimate end but only a means to some further end desired. Here there is an extrinsic final cause as well as a final cause intrinsic to the change itself. It may be with regard to this special sense that Bacon says of final causes that they are more allied to man's own nature than to the system of the universe. Yet Bacon far from denying their presence in the scheme of things assigns the investigation of final causes to metaphysics (as a branch of natural philosophy) rather than to physics. For him the attainment of final causes does not discover a purpose in the nature of things. Rather it looks to God's plan and providence.

WE HAVE SO FAR dealt with that consideration of nature which opposes the *natural* to the works of man. The discussion of nature also moves on a theological plane. Here on one traditional view the *natural* is not opposed to but rather identified with the work of God.

Things which are said to be made by nature. Plato writes are the work of divine art. Those who conceive the universe as God's creation and think of God alone as uncreated being tend to use the word *nature* collectively for the whole world of creatures and distributively for each type of thing which has its being from God.

The distinction between the supernatural and the natural has many interpretations in Christian theology but none more basic than that which divides all being into the uncreated and the created. On this view the order of nature includes more than the world of physical sensible things. It includes the spiritual creation—angels and souls—as well as immaterial beings are no more supernatural than bodies. They too are created natures. Only God is uncreated being.

Those who do not have or who deny a doctrine of creation use the word *nature* in a less and in a more comprehensive sense. The Greek philosophers for example seem to restrict the *natural* to the physical i.e. to the realm of material sensible changing things. Change is an element in the connotation of the Greek word *physis* of which *natura* is the Latin equivalent. As Greek scientists conceive the

study of nature it is the business of physics to investigate the principles causes and elements of change

Things which are thought to be untouched by chance such as the objects of mathematics self-subsistent ideas or separate forms or things which are thought to be eternal and immutable such as immaterial substances or intelligences, do not belong to the realm of physics or natural science. In Aristotle's classification of the sciences such beings are the objects of mathematics and metaphysics or theology. Since for him whatever is both sensible and mutable is also material the realm of nature includes no more than the whole material universe celestial as well as terrestrial.

The more comprehensive sense of nature appears in Spinoza's identification of nature with the infinite and eternal substance of God. Besides God says Spinoza no substance can be nor be conceived. Whatever is in God and nothing can either be or be conceived without God. All finite things are modes of the divine substance or more precisely of the attributes of God such as extension and thought. Nature therefore is the totality of finite things both material and immaterial. But nature exceeds even this totality for the infinite substance of God is greater than the sum of its parts.

To make this clear Spinoza employs the distinction between *natura naturans* and *natura naturata*. By *natura naturans* we are to understand that which is in itself and is conceived through itself or those attributes of substance which express eternal and infinite essence that is to say God in so far as He is considered as a free cause. But by *natura naturata* I understand everything which follows from the necessity of the nature of God or of any one of God's attributes in so far as they are considered as things which are in God and which without God can neither be nor be conceived.

Viewed under the aspect of time rather than eternity the order of nature (i.e. *natura naturata*) is as much an order of ideas as it is an order of things. The order and connection of ideas is the same as the order and connection of things. Spinoza writes: "Whether we think of nature under the attribute of extension or under the attribute of thought or under any

other attribute whatever we shall discover one and the same order or one and the same connection of causes."

Except perhaps for the Stoics like Marcus Aurelius and Epictetus Spinoza seems to stand alone in this conception of nature as all embracing. The Stoics too regard nature as the system of the universe with man a part of its cosmic structure and with God or divinity inherent in nature as the rational principle governing all things. But with or without reference to God and creation thinkers like Descartes and Hume tend to identify nature not with the totality of finite things but with the world of bodies in motion or changing sensible things.

For Descartes nature does not include the realm of thought or thinking substances though these like bodies are finite and dependent creatures of God. For Hume nature seems to be that which lies outside experience—in a way the reality which underlies appearances. Where Spinoza thinks that the system of ideas is as much a part of nature as the system of bodies in motion Hume speaks of a kind of pre-established harmony between the course of nature and the succession of our ideas.

Hume's distinction between knowledge of the relation between our own ideas and knowledge of matters of fact or real existence seems furthermore to imply that nature is the reality known (however inadequately) when we assert certain things to be matters of fact. Here we perceive another meaning of nature defined by another basic opposition: this time between the real and the ideal or the imaginary. It is in this sense that mediaeval writers oppose *entia naturae* i.e. natural or real beings to *entia rationis* or things which have their being in the mind.

THIS DISTINCTION like most of the others in which nature is concerned does not have universal acceptance. Kant as we have seen far from making nature the reality which exists independently of our experience or knowledge conceives the realm of nature as identical with all possible experience. We possess two expressions Kant writes *world* and *nature* which are generally interchanged. The first denotes the mathematical total of all phenomena and the totality of their synthesis. And

the world is termed nature when it is regarded as a dynamical whole—when our attention is not directed to the aggregation in space and time but to the unity in the *existence* of phenomena

On quite different principles of analysis Berkeley also treats as natural things the ideas or sensations which are not produced by or dependent on the wills of men. Natural beings do not exist apart from the mind but unlike imaginary ones natural beings are those ideas which are not subject to our will or the human mind's own constructive activities. Such ideas are produced in our minds immediately by God.

To the question whether Nature hath no share in the production of natural things Berkeley answers, 'If by *Nature* is meant the visible series of effects or sensations imprinted on our minds according to certain fixed and general laws then it is plain that Nature taken in this sense cannot produce anything at all. But if by *Nature* is meant some being distinct from God as well as from the laws of nature and things perceived by sense I must confess that word is to me an empty sound without any intelligible meaning annexed to it. Nature in this acceptation is a vain chumera introduced by those heathens who had not just notions of the omnipresence and infinite perfection of God.'

Berkeley's view represents one extreme position on a theological issue of the utmost difficulty. According to him God is not only the creator or first cause but the sole cause of everything which happens in the course of nature. There are no natural causes. Nature has no productive power. Everything is the work of God or the work of man—nothing the work of nature.

Within the limits of this issue the other extreme consists in denying not the creativity of God but the role of divine causality in the production of natural effects. It relegates them entirely to the efficacy of natural causes. Lucretius, of course denies both the creation of the world and the intervention of the gods in the processes of nature. But others like Descartes seem to say that once God has created the physical world once He has formed matter into bodies and given them their initial impetu-

tus their motions henceforward need only the laws of nature which God laid down for them to follow. For everything that happens in the course of nature natural causes operating under these laws suffice.

There is a third position which distinguishes between the work of God in the creation of nature and the work of nature in the production of effects of all sorts such as the natural motions of bodies or the propagation of animals. But though it ascribes efficacy to natural causes or second causes in the production of natural effects it also regards natural causes as instrumental to the hand of God the first or principal cause of everything which happens as well as of everything which is. Aquinas seems to hold that God acts alone only in the original creation of things whereas in the preservation of created natures and in their causal interaction God works through secondary or natural causes.

Some have understood God to work in every agent. Aquinas writes in such a way that no created power has any effect in things but that God alone is the immediate cause of everything wrought for instance that it is not fire that gives heat but God in the fire and so forth. But this is impossible. First because the order of cause and effect would be taken away from created things and this would imply a lack of power in the Creator. Secondly because the operative powers which are seen to exist in things would be bestowed on things to no purpose if things produced nothing through them. We must therefore understand that God works in things in such a manner that things have also their proper operation.

In other words according to Aquinas God is the cause of action in every agent. Furthermore God not only moves things to operate but He also gives created agents their forms and preserves them in being. With regard to the being of things Aquinas holds that God established an order among things so that some depend on others by which they are conserved in being though He remains the principal cause of their conservation.

WITH REGARD TO NATURE itself this theological doctrine raises two sorts of problems. The first concerns the efficacy of natural causes.

which are sufficient for the scientist to appeal to in explaining natural phenomena yet are insufficient by themselves for the production of natural effects. The second concerns the distinction between the natural and the supernatural now not in terms of the created and the uncreated but in terms of what happens naturally (or even by chance) as opposed to what happens as a result of God's intervention in the course of nature.

Miracles, for example, are supernatural rather than natural events. They are not produced by natural causes nor do they happen by accident. They are attributed by the theologian to divine causality yet not in such a way that violence is done to nature. The term *miracle* Aquinas explains as derived from admiration which arises when an effect is manifest whereas its cause is hidden. A miracle is so called as being full of wonder in other words as having a cause absolutely hidden from all. This cause is God. Therefore those things which God does outside the causes which we know are called miracles.

The miraculous is that which is beyond the power of nature to accomplish. A thing is said to be above the ability of nature. Aquinas writes not only by reason of the substance of the thing done but also because of the manner and the order in which it is done and the more the power of nature is surpassed the greater the miracle. Aquinas distinguishes three grades of miracles.

The first he says surpasses nature in the substance of the deed as for example if two bodies occupy the same place or if the sun goes backwards or if a human body is glorified. Such things nature is absolutely unable to do and these hold the highest rank among miracles. Secondly a thing surpasses the power of nature not in the deed but in that wherein it is done as the raising of the dead and giving sight to the blind and the like. For nature can give life but not to the dead and it can give sight but not to the blind. Such hold the second rank in miracles. Thirdly a thing surpasses nature's power in the measure and order in which it is done as when a man is cured of a fever suddenly by God without treatment or the usual process of nature. These hold the lowest place in miracles.

Though each of these kinds has various degrees according to the different ways in which the power of nature is surpassed no miracle according to Aquinas transgresses the order of nature in the sense of accomplishing the impossible. Unlike the impossible which would destroy nature the improbable can be elicited by God's power within the general framework of nature.

Hume on the other hand thinks that a miracle is a violation of the laws of nature. And since in his view a firm and unalterable experience has established these laws the proof against a miracle from the nature of the fact is as entire as any argument from experience can be. Why is it more than probable he asks that all men must die that lead cannot of itself remain suspended in the air that fire consumes wood and is extinguished by water unless it be that these events are found agreeable to the laws of nature and there is required a violation of these laws or in other words a miracle to prevent them?

Nothing is esteemed a miracle. Hume continues if it ever happens in the common course of nature. There must therefore be a uniform experience against every miraculous event otherwise the event would not merit that appellation. And as a uniform experience amounts to proof there is here a direct and full proof from the nature of the fact against the existence of any miracle nor can such a proof be destroyed or the miracle rendered credible but by an opposite proof which is superior.

Hume does not think that miracles can be proved against our uniform experience of the order of nature. But he also thinks that they are dangerous friends or disguised enemies to the Christian religion who would try to defend its beliefs by the principles of human reason.

The Christian religion not only was at first attended with miracles he declares but even at this day cannot be believed by any reasonable person without one. Mere reason is insufficient to convince us of its veracity and whoever is moved by Faith to assent to it is conscious of a continued miracle. His own person which gives him a determination to believe what is most contrary to custom and experience.



ONE OTHER TRADITIONAL conception of nature implicit in much of the foregoing should be noted. The various senses of the term so far explicitly considered are alike in this that they justify the use of the word Nature with a capital N and in the singular. This other sense of the term appears when we speak of each thing as having a nature of its own and of the world as containing a vast plurality and radical diversity of natures.

In this sense we attribute a nature even to things which are contrasted with Nature and the natural. We speak of the nature of God and the nature of freedom, the nature of art, the nature of reason, the nature of ideas, the nature of the state, the nature of customs and habits. This could of course imply a theory that things which are not completely natural nevertheless have a natural basis as art, the state or habit. Another meaning however seems to be involved.

The phrase *nature of* appears almost as frequently in the great books as the word *is* and frequently it is unaccompanied by any explicit theory of Nature or the natural. The discussion of the *nature of* anything seems for the most part to be a discussion of *what it is*. To state the nature of anything is to give its definition or if for any reason definition in a strict sense cannot be given, then the attempt to state the nature of the thing consists in trying to say what characterizes this thing or kind of thing in distinction from everything else or all other kinds.

In enumerating the senses of the term *nature* Aristotle gives this as the fifth meaning. The first four comprise senses which distinguish the natural from the artificial or the immutable and which indicate that the natural or the physical has an immanent principle of movement in itself and involves matter or potency. The fifth sense is that in which *nature* means

the *essence* of natural objects and as he goes on to say this implies the presence in them of form as well as matter. By an extension of meaning from this sense of nature every essence in general has come to be called a nature because the nature of a thing is one kind of essence. This is the sixth and most general sense according to which the nature or essence of any thing is the object of definition.

Does each individual thing have a nature peculiarly its own even if it cannot be defined? Or is a nature or essence always something common to a number of individuals according to which they can be classified into kinds and the kinds ordered as species and genera? Do John and James for example have individual natures in addition to the common nature which they share through belonging to the human species and does their human nature entail certain properties which are generic rather than specific *i.e.* which seem to be determined by their having the generic nature common to all animals as well as the specific nature common to all men?

Such questions about individual specific and generic natures raise problems of definition and classification which are discussed in the chapter on EVOLUTION. They also raise problems about the existence or reality of the *kinds* which men define and classify. Are they merely what Locke calls nominal essences or do our definitions signify real essences *i.e.* the natures of things as they really are? Is the real world one which as William James says, plays right into logic's hands? Does Nature consist of a hierarchy of natures or distinct kinds or is it a continuum of things all having the same nature and differing from each other only individually or accidentally but not essentially? These problems are discussed elsewhere in such chapters as ANIMAL DEFINITION, EVOLUTION, LIFE AND DEATH and SAME AND OTHER.

## OUTLINE OF TOPICS

### 1. Conceptions of nature

#### 1a. Nature as the intrinsic source of a thing's properties and behavior

- (1) The distinction between essential and individual nature: generic or specific properties and individual contingent accidents

- (2) Nature or essence in relation to matter and form

- 1*b* Nature as the universe or the totality of things the identification of God and nature the distinction between *natura naturans* and *natura naturata* 235
- 1*c* Nature as the complex of the objects of sense the realm of things existing under the determination of universal laws
- The antitheses of nature or the natural 236
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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOBBS *Thod* bk 11 [263 283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of pa. e 12

**PAGE SECTIONS** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 117. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR & DIVISIONS** One or more of the main divisions of a work (such as PART BK c 1 SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Had* bk 11 [265 83] 12d

**BIBLE REFERENCES** The references are to book chapter and verse. When the King James and Douay versions differ a title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. *Old Testament* *Hebrew* al 7 45—(D) *II Esd* a 7 46

**SYMBOLS** The abbreviation esp calls the reader's attention to one or more especially relevant parts of a whole reference pa ■ signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface

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## 1a Nature as the ultimate source of a thing's properties and behavior

7 PLATO *Can* 105a d

8 ARISTOTLE *Physics* bk c 1 59a b bk 11 c 1 268b d 270a / *Metaphysics* bk v c 1 4 534d 535c c 1 1 [1019<sup>a</sup> 4] 540a bk ix ch 8 [1049<sup>b</sup> 11] 575b / *Soul* bk 1 4 [415<sup>b</sup> 416 8] 645d 646c

9 ARISTOTLE *Politics* bk 1 c 2 [1232<sup>b</sup> 30-31] 415a b / *Rhetoric* bk 1 c 1 ■ [1369<sup>a</sup> 31 5] 612c d

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19 AQUINAS *Summa Theologiae* pt 1 q 3 a 3 15a d q 18 a 3 15 106b 107c q 21 a 1 re 4 162a 163b q 39 a 2 ans and ref 3 203b-204c q 6 a 2 ans 311a d q 115 a 2 15 587c 588c

20 AQUINAS *Summa Theologiae* pt 1 q 2 a 1 710a 711c q 17 a 2 ans and ref 1 4 803d 809d

28 HUBER *On Animal Generation* 384d 390b pa 1111 428a d

30 HUBER *Novum Organum* bk 1 a 1 4 137d 138b

31 DESCARTES *Discourse* part v 60b / *Meditations* pt iii 83c d 1 90a b v 93b c v 99c 100d / *Objections and Replies* 120b 12 c

31 DICKSON *End of Part IV* pro 18 c 102 prop 19 429a d prop 37 school 1 434d 4 5b

35 LOCKE *Human Understanding* bk ii ch xxiii sect 3 204c d sect 8 206a b ch v vi sect 6 240d 241d sect 11 242d 243 sect 13 243a b ch xxviii sect 24 247c d ■ iii iii sect 15 19 258b 260a c 1 1 258b 283a passim esp sect 2 3 268c d c 1 12 sect 12 287d 288a

35 RUSSELL *Human Knowledge* sect 101 103 432c-433a

42 HUBER *Physics* on 133b [in 1]

46 HEGEL *Philosophy of History* intro 165b c

49 DARWIN *Origin of Species* c 1 9 10d passim

1a(1) The distinction between essential and individual nature generic or specific properties and individual contingent accidents

8 ARISTOTLE *Posterior Analytics* bk 1 ch 4 100a 101b bk 1 c 1 3 123c 121c / *Topics* bk v ch 3 [13 19 37] 182b c / *Physics* bk ii ch 1 [192<sup>b</sup> 33 39] 269 c 1 [198 22 27]

- 275b c AK VI CH 3 [163-9] 329c d / *Gen  
eration and Corrupti* n AK II CH 11 [335<sup>9</sup>12-  
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[995<sup>27</sup>31] 514b CH 3 517a 518a BK V CH 6  
536a 537c CH 8-9 538b 539a CH 10 [1014<sup>9</sup>39-  
68] 539b c CH 30 547a d BK VI CH 10-15  
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3 [1054 30-1055 3] 581a d CH 8-9 585b 586c  
BK XI CH 1 [1 59<sup>21</sup>1060 1] 587d 588a
- 9 ARISTOTLE *History of Animals* BK I CH 1  
[456 5 487<sup>1</sup>1] 7b d / *Generation of Animal*  
BK V CH 1 [778 15<sup>10</sup>] 320a 321a
- 12 LUCRETIVS *Natur of Things* BK I [449-482]  
6 7a
- 17 PLOTINVS *Second Ennead* TR III CH 12  
46
- 19 AQUINAS *Summa Theologiae* P RT I Q 3 A 3  
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- 35 LOCKE *Human Understanding* BK III CH III  
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- ROUSSEAU *Inequality* 341 342b *passim*
- 49 DARWIN *Origin of Species* 28b 29a

1a(2) Nature or essence in relation to matter  
and form

- 8 ARISTOTLE *Physics* BK II CH 2 [193 9<sup>21</sup>]  
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[199 30-31] 278c CH 9 277b 278a c / *Meta  
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BK I CH 4 [415<sup>28</sup> 416 18] 645d 646
- 9 ARISTOTLE *Parts of Animals* BK I CH 1  
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- 10 GALEN *Natural Philosophy* BK CH 5 169b c  
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- 12 AURELIUS *Mediocris* BK VII ECT 23 281b  
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- 17 PLOTINVS *Fourth Ennead* TR I CH 9-12  
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- 19 AQUINAS *Summa Theologiae* P RT I Q 3 A  
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- 20 AQUINAS *Summa Theologiae* P PART I II Q 85  
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- 30 BACON *Natural Organon* BK II APH 4 137d  
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- 42 KANT *Pure Reason* 186b-d

1b Nature as the universe or the totality of  
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- 12 LUCRETIVS *Nature of Things* BK I [418 482]  
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- 12 I CRETIVS *De coeli* BK I CH 14 120d 121c
- 12 AURELIUS *Mediocris* BK SECT 1 2 6b d  
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- 17 PLOTINVS *Third Ennead* TR C I 16 90c  
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- 31 DESCARTES *Meditations* I VI 99c
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- 42 KANT *Judgment* 564c 565d esp 565c d  
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- 46 HE BL *Philosophy of History* INTRO 176b-c  
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- 47 GOETHE *Faust* PART [430-21] 12b-15a
- 48 MELVILLE *Moby-Dick* 115b 117a 140a
- 49 DARWIN *Origin of Species* 40d
- 51 TOLSTOY *War and Peace* BK V 216d 218b  
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1c Nature as the complex of the objects of  
sense: the realm of things existing under  
the determination of universal laws

- 42 KANT *Pure Reason* 5d 6c 15b c 25b 26b  
29d 33d esp 32c 33a 49c 51d esp 51 II 88b  
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[95 3-9] 129d / *P. sto.* bk ii c i i 268b d  
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*mp. on* bk ii ch 9 [313<sup>b</sup> 18 336 13] 437b d /  
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778b 779d / *New Introductory Lectures* 8 7a b

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- 1 PLATO *Protago* a 52b / C 131 s 85a 114a c esp 85a 87b 110c 111c / *Gorgias* a 271b 272b 273d 274c / *Republic* bk ii 311b 313a / 7 i iur 528b c / *Lysis* bk x 760a c
- 2 ARISTOTLE *Topica* bk vi ch 2 [140<sup>6</sup>-18] 193a ch 3 [141 15 22] 194b-c / *Sophistical Refutation* c i iii [173<sup>7</sup> 18] 238b c [173 2 30] 238
- 3 ARISTOTLE *Ethics* bk v ch 7 382c 383a / *Politics* bk i ch 2 [123<sup>3</sup> 29-37] 446d ch 6 448c-449b / *Rhetoric* bk i ch 15 [1375 25 25] 619d-620b
- 4 LUCRETIUS *Nature of Things* bk ii [14 37] 15a c bk iv [823-857] 55a b bk v [925 1027] 73b-74c
- 5 AUGUSTINE *City of God* bk xiv ch 1 517d 518c / *Christian Doctrine* bk ii ch 24 26 648d 650a
- 6 AQUINAS *Summa Theologiae* PART I q 97 a 2 227c 228c a 4 a 45 229b 230c q 97 3 REP 237b 238b
- 7 DANTE *Divine Comedy* PARADISE CXXVI [24 13] 147a b
- 8 HOBBS *Leviathan* ART 1 56d 84c 96b V RT II 99a 101a 131a c 136d 137a 138c 159d PART IV 272c
- 9 MONTAIGNE *Essays* 63d 61b 93b 94a 102a 103a 424d-426b 430b c 509a b
- 10 SHAKESPEARE *As You Like It* 597a 626a c esp ACT II SC 1 [1 20] 603c d SC V 506b 607a ACT I SC 1 [1 20] 609d 610c
- 11 SHAKESPEARE *All's Well That Ends Well* ACT SC III [112 151] 152 153a / *King Lear* ACT I SC II [1-22] 247d 248 / *Timon of Athens* 293a-420d esp ACT IV SC 1 ACT V SC 409c 419b / *Cymbeline* CT I C III [12 8] 463c-466b
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- 15 LOCKE *Treatise on Government* C III IV 25d 54d pas m C XI SECT 133 137 35d 57b / *Human Understanding* bk ii C XXVII SECT 2 3 228c 229b
- 16 MONTAIGNE *Spirit of Laws* bk i ch 3d bk viii 52a bk xvi 119d 120a bk xxvi 215b-217b 219d 221c
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- 21 FEDERALIST NUMBER 51 164 d

- 43 MILL *Liberty* 269c d 293b 30 c p m / *Representative Government* 327b d 332d pas m / *Utilitarianism* 459b 461c passim
- 44 BOSWELL *Johnson* 194a 311b 363c 364a
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- 51 TOLSTOY *War and Peace* bk vi 514c d
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- 7 PLATO *Republic* bk ii iii 319c 339a bk v-vii 358c 401d / *Statesman* 605d 608d
- 8 ARISTOTLE *Categories* ch 8 [8<sup>b</sup> 6-9<sup>a</sup>] 13d 14b / *Prior Analytics* bk ii c 27 [70<sup>b</sup> 6-39] 92c 93a c / *Metaphysics* bk i ch i [981 31-37] 499d bk ix ch 5 [1 47<sup>b</sup> 31 34] 573a
- 9 ARISTOTLE *History of Animal* bk iv ch 9 [53<sup>6</sup> 14 2] 63b / *Ethics* bk ii ch i 348b d 349b bk iii ch 3 [122a 2 245] 350c d bk vi ch ii [154<sup>3</sup> 13] 393a ch 13 394b d bk vii ch 10 [155<sup>2</sup> 28 33] 403b / *Politics* bk vii ch 13 [133<sup>2</sup> 39 41] 537a b ch 14 [131<sup>1</sup> 16-23] 538a c 17 [133<sup>6</sup> 3 22] 541a b / *Rhetoric* bk i c 13 [1370 5 14] 613b bk ii c [1 404 5 19] 654b c 2 [14 57-9] 655b / *Poetics* c 22 [1459 5 7] 694d
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- 13 PLUTARCH *Cicero* 174b d 175a
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- 28 HARVEY *Motion of the Heart* 285b-c / *On Animal Generation* 428a c

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38 ROUSSEAU *Inequality* 329a 366d  
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43 MILL *Liberty* 293b 302c passim / *Utilitarianism* 459b 461c passim  
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49 DARWIN *Origin of Species* 9b 10d 65a 69c 98c 119a d 131c 134c esp 134c / *Description of Man* 287d 288c 304b d [1a 5]  
53 J. A. ZS *Psychology* 49b 50a 68a 78b 79a 691a b 704a 737a passim esp 704a 705a 707b 712b 732b 735b 737a 890b 897a  
54 FREUD *General Introduction* N 530d 531c 573c d 588c 589a 591d 592b 594d 595b / *War and Death* 757d 759d / *Civilization and Its Discontents* 781a c

(2 *Natural and violent motion*)

- 7 PLATO *Timaeus* 463d 464b  
8 ARISTOTLE *Physics* BK IV CH I [208<sup>b</sup>9-22] 287b CH 8 [15 13] 294c d BK V C 6 [230 18 23 19] 311c 312d BK VIII CH 4 338d 340d / *Meteorology* BK I C 1 [268<sup>b</sup>12] CH 3 [270<sup>a</sup> 13] 359d 361b CH 7 [274<sup>b</sup>30-33] 366a [75<sup>b</sup> 12 29] 366d 367a CH 7 [276 8] CH 8 [27 25] 367b 369a CH III [278<sup>b</sup>22-279 8] 370a BK II CH 13 [294<sup>b</sup>31 295<sup>b</sup>29] 386b d BK III CH 2 391c 393b CH 5 [304<sup>b</sup>22 23] 395d 396a BK III [305 22 28] 396 / *Generation and Corruption* BK II CH 6 [333<sup>b</sup>22 334 9] 434c 435a / *Metaphysics* BK V C 1 5 [105<sup>b</sup>9-6] 536a BK IV C 1 [104b 34 36] 571b BK XII CH 6 [107<sup>b</sup>33 37] 601d / *Soul* BK I CH 3 [406 22 27] 635c  
12 LUCRETIUS *Nature of Things* BK I [1032 1094] 14a-c BK II [184 215] 17b-d  
16 PTOLEMY *Almagest* BK I 11a BK III 86b BK IX 270b  
16 COPERNICUS *Revolutions of the Heavenly Spheres* BK I 517b-520b  
16 KEPLER *Epitome* BK IV 929b 930b  
17 LUTHER *Second Ennead* TR I CH 8 39d / *First Ennead* TR III C 1 26 296a b  
20 AQUINAS *Summa Theologiae* a PART III Q 18 A 1 REP 2 104c 105c Q 97 A 2 ANS 514c 515a Q 15 A 4 REP 1 541c 542a A 6 REP 1 543b-544a PART II Q 6 A 1 ANS 644d 646a A 4 ANS nd REP 2 3 647b-648a A 5 ANS and REP 2 3 648b-649a Q 9 A 4 REP 2 660a d Q 41 A 3 799c 800b

- 20 AQUINAS *Summa Theologiae* a PART III SUPPL. Q 95 A 3 ANS and REP 3-5 938a 939d Q 91 A 2 ANS and REP 6 1017c 1020c  
21 DANTE *Divine Comedy* PARADISE I [94 14] 107b d  
23 HOBBS *Leviathan* PART I 50a PART IV 271d  
28 GILBERT *Lodestone* BK VI 109a b 110b-d  
28 GALILEO *Two New Sciences* FIRST DAY 157d 158a THIRD DAY 200a d 203d FOURTH DAY 238a b  
30 BACON *Novum Organum* BK I APH 66 115b c BK II APH 36 164a 168d A II 4<sup>b</sup> 179d 188b

(2 *The natural and the unnatural or monstrous the normal and the abnormal*)

- OLD TESTAMENT *Genesis* 18 16-19 38 esp 19 49 19 30-38 / *Exodus* 22 19 / *Leviticus* 18 esp 18 22 3 20 10-24 / *Deuteronomy* 27 21 / *Judges* 19 22  
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OT *Book of Wisdom* 14 22 27  
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5 SOPHOCLES *Oedipus the King* [1298 1421] 111b 112b  
6 HERODOTUS *History* BK III 102d 103 114a b 122a BK VIII 281c  
7 PLATO *Craylus* 90a 91a / *Lysis* BK I 645d 646a BK VIII 735c 738b  
8 ARISTOTLE *Physics* BK II CH 8 [199 33 41] 276c d  
9 ARISTOTLE *History of Animals* BK III CH 2 [522 13 21] 47a b BK VI CH 2 [559<sup>b</sup>16-20] 86b BK II 22 [576 1-2] 101c / *Generation of Animals* BK IV CH 3 4 308d 315b esp CH 4 [770<sup>b</sup>10-24] 312b c CH 8 [777<sup>a</sup>14 22] 319b  
12 LUCRETIUS *Nature of Things* BK II [100-710] 23d 24a BK V [837-854] 72a b [378-921] 72c 73a  
18 ALCUYNE *Confessions* BK III PAR 15 17a b / *City of God* BK XXII CH 22 606d 607a / *Church and State* BK IV CH 21 692d-693c  
19 AQUINAS *Summa Theologiae* a PART II Q 31 A REP 1 717b d  
23 HOBBS *Leviathan* PART II 151d 152a  
24 RABELAIS *Gargantua and Pantagruel* BK I 5c 6b 8c 9c BK III 191c 193c BK IV 273c 274b  
25 MONTAIGNE *Essays* 80b 81b 343c 344a  
26 SHAKESPEARE *3rd Henry VI* ACT II SC V [55 122] 82b d ACT V SC VI [35-83] 103 104a / *Richard III* ACT I SC I [31] 10 b d SC II [1-67] 107c 108b / *Richard II* ACT I SC IV [7 24] 334c d / *Julius Caesar* ACT II SC II 578a 579c  
27 SHAKESPEARE *Hamlet* ACT III SC II [106-417] 53b SC IV [139-101] 55a c / *Timon of Athens* ACT I SC III [75 137] 108d 109c / *Othello* ACT I SC II [59-81] 208b-c SC III [58 9] 209c 210b ACT III SC III [225 235]

- 224 -d / *King Lear* 244a 283a c esp ACT I SC I [211 26] 246d SC IV [ 83 311] 252d 253b ACT IV SC II [ 9-68] 270d 271b / *Macbeth* ACT I SC IV 294a c / *Peacles* ACT I PROLOGUE [ 1-5 1 [142] 421b-423b
- 28 HARVEY *Circulation of the Blo d* 305a d
- 30 B ON *Acneeme t of Learning* 33b d / *Novum Organum* BK II APH 29 159b ■
- 35 LOCKE *Humana U dersta d g* BK III CH III SECT 17 258d 259b ■ V S T 22 27 273d 276a BK IV CH IV SECT 13 16 326d 328d
- 36 SWIFT *Gulliver* PART IV 155b 157a
- MONTEQUIEU *Spirit of Laws* BK XII 87d ■
- 38 ROUSS AU *In quality* 363a 366d
- 41 G B ON *Decl ne and Fall* 93d 94a
- 46 HEGEL *Philosophy of History* INTRO 183c d
- 49 DARWIN *O gn of Spec s* 24a c
- 51 T LSTOV *Wa a d Peace* BK XI 525c
- 53 JAM S *Psychology* 241b 258b
- 54 FREUD *U co* ■ ut 433c / *General I t oduc* 530d 570 572d / *New Introductory Lectures* 830d 831a
- 2/ The order of nature and the order of freedom the phenomenal and the noumenal worlds the antitheses of nature and spirit
- LLEZTIUS *Nature of Things* XI [251 293] 18b-d
- 31 S : ORA *Eth s* ART I PROP 26-29 365b 366c PROP 3 33 367a 369 PROP 36 369b APPENDIX 369b 372d p ■ ART I 395a d ART IV PRO 57 HO 441a c
- 42 KANT *Pu Re* 93c 99a 101b 107b 133 c 164a 170d esp 164a 165 169 170a / *Fnd P in Metaphys of Mor ls* 253a c 271 ■ 275b 281c 282d 283d 287d / *P c tual Re* 292a 293b 296a d 301d 302d 307d 314d 327d 329 331c 337a c / *I tro Metaphys of Mor l* 383c d 386b 387a 388 d 390b / *J dgement* 463 -467a esp 465a c 570b 572b esp 571 572a 587a 588 603 b 607c 609b 610
- 45 HZ XL *Philosophy of Right* REF 6a 7a RT I par 39 21d PART III p 187 65a c pa 180 94d 95a p 352 112b ADDITION 1115 d 152 141 d 64 144 145a 167 145c / *Philosophy of History* NTRO 164b c 170c 172b 178a 179c 186b ■ 203b 206a c ART I 207 209a 222a 224a 236 c 245d 246 247 d 252a 255a 257 d P RT 268b 271
- 51 TOLSTOY *W r d Peace* E ILO U ■ 689 690a 693d 694d
- 3 The order of nature
- 3 The rationality of nature the maxims and laws of nature
- 7 PL TO *M o* 180a / *Ph do* 240d 242b / *T me* 447b 455d p 455a d / *S phist* 567a 569a / *Philebu* 618b 619d
- 8 ARISTOTLE *Physics* BK I CH 4 [188 5 12] 263b BK II CH 8 [199 8-33] 276b 277a / *He tens* BK I CH 4 [271 34] 362c / *Generat on a d Corruption* BK II CH III [336<sup>b</sup> 25-34] 438d / *Metaphys* s BK I CH 3 [984<sup>b</sup> 22] 502d BK II CH 2 [994<sup>b</sup> 10] 512d 513a / *Prophesying* CH 2 [463<sup>II</sup> 15] 708a
- 9 A TOTLE *Pris of Animals* BK I CH I [639<sup>b</sup> 12-640 12] 161d 162b ■ III CH 4 [665<sup>b</sup> 19-193c BK IV CH 6 [683 0-35] 214b / *Genat of Animals* CH 2 [704<sup>b</sup> 12 18] 243c c I [711 15 20] 249b / *Generat on of Animals* BK I CH I [715<sup>a</sup> 25-317] 255b d CH 4 [717 13 18] 257a BK II ■ 4 [739<sup>b</sup> 19-21] 280c ■ 5 [741<sup>b</sup> 2-4] 282c CH 6 [744 36-745<sup>b</sup> 1] 285c 286d / *Pol s* BK I CH 8 [1256<sup>b</sup> 8-26] 450b c
- 10 G RN *Natural Faculties* ■ I C I 6 170b c CH 2 172d 173c sp 173c ■ I 13 175c BK II CH 4 187c
- 12 LU R TIUS *Natur of Things* BK I [146-264] 2d-4b BK II [294 3 7] 18d 19a [ 77 1 89] 28d ■ V [306-310] 65a
- 12 AURELIUS *Meditations* BK II SECT 4 257b BK IV SECT 40 267a b ■ T 45 46 267b-c BK V SECT 30 273 ■ V SECT I 274a SECT 36 277 ■ T 40 277d ■ VI SECT 25 281c SECT 75 285c BK X SE T 6-7 297a
- 16 COPERNICUS *Revoluts of the Heavenly Spheres* BK I 526a 529a
- KE LER *Harmoni s fith World* 1023b 1080b
- 17 PLOTINUS *Th d E nead* TR VIII 129a 136 p CR 2 4 129b 131a / *Fourth E nead* TR IV CH 3 164d 165b
- 18 AUGUSTIN *Christian Doctrin* BK II CH 32 652b c
- 19 AQUIN *Summa Theologica* PART I Q A 1 ANS and R 2 12c 14a q 19 A 4 AN 111c 112c q 71 A 1 4 367a 368b q 76 A 5 AN 394c 396a PART I ■ I A 2 610b 611b Q 5 A 5 R ■ 640b 641a
- 20 AQUIN *Summa Theologia* PART III Q 9 A 4 AN 766b 767b
- 21 DANT *De c C medy* PARADISE VIII [91 148] 117d 118
- 23 HO *Le il n A TI* 56d
- 24 RA LAS *G gntu and Patagruel* BK III 192b
- 25 MON N *E dys* 80b 81b 216c 219a esp 218 219 516b c
- 28 G LBR *Lo dt* BK I 12 b BK V 110d
- 28 GAL EO *Two New Science* ■ T DAY 131d 132 135b 136b THIRD DAY 200a d
- 28 H RV Y *Mot n f i H* 285 302 304a c / *O A mal Generat o* 390b 402 426b-429b 447b d 453 454b 489d
- 29 CERVINTE *Do Qu x te* PART XIIA
- 30 BA ON *Advancement of Learn g* 92 d / *No um Org* ■ K I A H 10 13 107d AV 24 108 ■ K APH 6 139b ■ 43 175
- 31 DE CART S *Discour* PART V 54 55 56 esp 55b 59a / *Obj et o a d Replie* 214d 215b



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- 31 SPINOZA *Ethics* PART I PROP 29 SCHOL 366b c PROP 33 SCHOL 1-2 367c 369a APPENDIX 369b 372d PART III 393a d PART IV PROP 422b d 424a
- 33 PASCAL *Pensées* 7 184b 75 185b 186a / *Vacuum* 359a 365b / *Great Experiment* 382a 389b esp 388b 389a / *Weight of Air* 405b 415b 425a 429a
- 34 NEWTON *Principles* BK III RULE I-III 270a 271a esp RULE I 270a / *Optics* BK I 409b BK III 528b 529a 540a 542a 543a
- 35 LOCKE *Human Understanding* BK IV CH III SECT 28- 9 322a 323a
- 35 B K LEY *Human Knowledge* SECT 29 33 418c 419a passim SECT 6 -66 425a-426a SECT 103-109 433a 434b passim SECT 50-151 442d 443c
- 35 HUME *Human Understanding* SECT V DIV 44 468d-469c SECT VI DIV 47 470b d SECT VII DIV 64 70 478d-482c passim
- 38 ROUSSEAU *Social Contract* BK II 397a
- 42 KANT *Pure Reason* 127a 128a 220a b / *Fu d Pri Metaphysic of Morals* 256d 257a 264d 265a / *Judgements* 467d-468c 550b 551a c 558b c 559c d 583d 584c
- 43 LAVOISIER *Elements of Chemistry* PART I 41b-c
- 45 FOURIER *Theory of Heat* 169a b 173b 175b 177a 183a 184a
- 45 FARADAY *Researches in Electricity* 582b 584a passim 839b-c
- 46 HEGEL *Philosophy of Right* PREF 6a 7a PA T III par 46 55c d ADDITIONS I 115a d / *Philosophy of History* INTRO 156d 160b 183 d 186d 187a IV 361a c
- 47 GOETHE  *Faust* PART I [447 453] 13a
- 48 MELVILLE *Moby Dick* 231a
- 49 DARWIN *Origin of Species* 71a c 91b 92d esp 92c d 97a 98a c 243c d
- 51 TOLSTOY *War and Peace* BK XI 469a 470c BK XIII 563a 564a EPILOGUE II 687d 688a 693d 696d
- 53 JACOBS *Psychology* 5a 503b 672a 862 866a 870b 873a b 882 886b esp 884b 885a 889a 890a

3b Continuity and hierarchy in the order of nature

- 7 PLATO *Timaeus* 447b-458a / *Philebus* 618b-619d
- 8 ARISTOTLE *Categories* CH 13 20b d / *Topica* BK VI CH 10 [148 23 38] 202b-c *Physics* BK VIII CH I [250<sup>b</sup> 11 14] 334a / *Heaven* BK I CH 2 359d 360d BK II CH 12 383b 384c / *Generation and Corruption* BK I CH 10 [336<sup>b</sup> 25 34] 438d / *Metaphysics* K I CH 6 505b-506b CH 7 [988 34 35] 506c CH 9 508c 511c BK XIV CH 3 [1090<sup>b</sup> 14 21] 623b / *Soul* BK I CH 5 [411<sup>b</sup> 23] 641a b BK II CH 2 [413

- 20<sup>b</sup>4] 643b c BK III CH II [433<sup>b</sup> 31 434<sup>b</sup>] 666d / *Sleep* CH I 696a 697c
- 9 ARISTOTLE *History of Animals* BK VIII CH I 114b d 115b / *Parts of Animals* BK I CH 5 [644<sup>b</sup> 23-645 26] 168c 169a BK IV CH 5 [631 12 15] 211d CH 10 [686<sup>b</sup> 23 35] 218b c / *Generation of Animals* BK II CH I [731<sup>b</sup> 24 733<sup>b</sup> 17] 272a 274a
- 12 LUCRETIUS *Nature of Things* BK I [418 44] 6b 6c K II [865-930] 26a d BK V [783-836] 71b 72a
- 12 EPICTETUS *Discourses* BK II CH 8 146a b
- 12 AURELIUS *Meditations* BK V SECT 8 269d 270b SECT 16 271c d BK IV SECT 9 292b d BK XI SECT 18 304b c
- 17 PLOTINUS *Second Ennead* TR III CH 13 46c 47b / *Third Ennead* TR III CH 3 9 d 94c
- 18 AUGUSTINE *Confessions* BK VII par 16-23 48c 50c / *City of God* BK VI CH 22 333d 334c BK XII CH 2-5 343c 345b K XIV CH 12 17 518c 523a
- 19 AQUINAS *Summa Theologiae* PART I Q 18 A 3 106b 107c Q 23 A 5 REP 3 135d 137d Q 47 A 2 257b 258c 48 A 2 ANS and REP 3 260c 261b Q 50 A 1 ANS a d REP 1 269b 270a A 4 273b 274b Q 57 A 1 ANS 295a d Q 71 A 1 REP 4 367a 368b Q 75 A 7 384d 385c Q 76 A 3 ANS 391a 393a A 5 REP 3 394c 396a Q 77 A 2 401a d A 4 REP 1 403a d Q 108 552c 562a esp A 4 555b d Q 110 A 3 ANS 566d 567b PART II Q 1 A 4 REP 1 612a 613a Q 5 A 1 REP 3 635d 637c
- 20 AQUINAS *Summa Theologiae* PART I Q 7 A 9 ANS 751d 752c
- 21 DANTE *Divine Comedy* PARADISE I [94 147] 107b d XIII [52-87] 126a b
- 25 MONTAIGNE *Essays* 218 219a
- 27 SHAKESPEARE *Troilus and Cressida* ACT I SC III [75 139] 108d 109c
- 28 HARVEY *Motion of the Heart* 277b-278d esp 278b c / *On Animal Generation* 336b-d 400d-401a
- 30 MCOY *Nolum Oganum* BK II APH 30 159 d A 135 162a 164a APH 37 168d 169c A H 41 173d 174b
- 32 MILTON *Paradise Lost* BK V [469-505] 185b-186a
- 33 PASCAL *Pensées* 119-121 195a
- 35 LOCKE *Human Understanding* BK II CH IV SECT 12 140c BK III CH VI SECT 11 12 271b-272b K IV C XVI SECT 12 370c 371a
- 42 KANT *Pure Reason* 193 200c esp 199c 200c / *Judgements* 578d 580a esp 579b-c 582b-c
- 43 FEDERALIST NO I ER 37 119b-d
- 46 HEGEL *Philosophy of History* INTRO 183c-d
- 49 DARWIN *Origin of Species* 55b-62 63d 64d 179b-180d 228c 229a c 238b-243d esp 241b-c, 243b d / *Descent of Man* 340d 341d
- 51 JAMES *Psychology* 51a 52 95b-98a 686b
- 54 FREUD *Beyond the Pleasure Principle* 651d 654b esp 652b c 653b 654a





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- III AUGUSTINE *City of God* BK XI CH 2 333d  
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19 AQUINAS *Summa Theologica* PART I Q 2 A 3  
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20 AQUINAS *Summa Th lgc* PART II SUPPL.  
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21 DANT *Divine Comedy* URGATORY XVIII  
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23 HO ES *Leviathan* PART I 50 PART IV  
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28 HARV Y *M u n of the Heart* 271b-273a  
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30 B COV *Ad amement of Learning* 43a d 45a  
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31 S INCOZ *Ethics* ART I APPENDIX 369b  
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33 MILTON *P ad Lost* BK V [469-5 5] 185b-  
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36 STERN *T tr m Sh dy* 229b 230a  
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46 H FL *P l o phy f Hist ry* INTRO 157b d  
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49 DA VINCI *O g f Sp cr* 40 42a c p 41 d  
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7 PLATO *T maeu* 463d-466a / *Sophi s* 577d  
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8 AR STOT E *Physic* K I H 9 [192 16-24]  
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*ens* BK I CH 4 [ 7 34] 362c BK II CH 12  
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10 H OCRATE *Aur W ters Pl* par 22  
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12 LUCRETIVS *N tu c of Th gs* K I [ 46- 58]  
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12 EPICT TUS *D ourses* K I c 6 110 112b  
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12 AUR IUS *M d t t n* K II s CT 4 257b  
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14 P UYAR H *N ci* s 435b d

16 K ER *Harm s f al* H Id 1049b-  
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- (3c) *Nature and causality* 3c(4) D: *no causality in relation to the course of nature the principle of causality of nature pro natura in ratione*
- 18 AUGUSTINE *City of God* BK XI CH 22 333d  
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- 19 AQUINAS *Summa Theologiae* PART I Q 2 A 3  
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- 57 KANT *Logic* C I 47 479d esp 479a d  
491-495 c 495c B 502d 503b 521b 524b  
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- 58 HEGEL *Philosophy of History* ART I 263d  
265c
- 59 MILL *Utilitarianism* 477a b 335b
- 60 DARWIN *Descent of Man* 576b 577d
- 61 PAUL *Philosophy* 185b



## 6 Nature in religion and theology

## 6 The personification and worship of nature

- OLD TESTAMENT *Deuteronomy* 4 16-19 1 3 /  
*II Kings* 23 4-5 11—(D) *IV Kings* 23 4-5 11  
*Jeremiah* 8 1 2 10 2—(D) *Jerusalem* 8 2  
 10 2 / *Ezekiel* 8 16—(D) *Ezekiel* 8 16 /  
*Zephaniah* 1 4-5—(D) *Sophonia* 1 4-5  
 APOCRYPHA *Wisdom of Solomon* 13 1-9 13 18  
 19—(D) *OT Book of Wisdom* 3 1-9 15 18  
 19

NEW TESTAMENT *Romans* 1 23 256 HERODOTUS *History* bk 1 31a b 48c7 PLATO *Phaedrus* 116b d8 ARISTOTLE *Metaphysics* c bk xii ch 8 [ 97a  
 1 14] 604d 605a12 LUCRETIUS *Nature of Things* bk 1 [ 43]  
 1a d bk ii [581-66] 22b 23b bk v [783  
 836] 71b 72a18 AUGUSTINE *City of God* bk iv ch 8 192c  
 193b27 SHAKESPEARE *King Lear* ACT I SC II [ 23]  
 247d 248a SC IV [297 311] 253a b ACT III  
 SC II [ 25] 262d 263e31 NEWTON *Optics* bk iii 543b 544a40 GIBSON *Decline and Fall* 81d 93b c4 HANT *Judge of the* 504b 505a4 HEBER *Philosophy of History* INTRO 196d  
 197c PART I 220c 221a 278a 244c 245a  
 252a 255a ART II 263d 265c 268b 271c  
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 II [4679-4 27] 116b 117b42 MELVILLE *Moby Dick* 367a 372a50 MARX *Capital* 35b-c5 FREUD *New Introduction to Lectures* 876d  
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## 6B Nature and grace = human life

- NEW TESTAMENT *John* 1 12 13 3 6 22 27 /  
*Romans* esp 8 7 / *I Corinthians* 2 3 12  
 13 42-50 / *II Corinthians* 4 15 16 5 14 17  
 1 10 2 4 12 7-9 / *Galatians* 5 3 4 9-26  
 / *Ephesians* par m ep 2 1-6 4 17 24 /

*Colossians* passim esp 3 9 10 / *I Peter* 4 1 10  
 / *II Peter* 1 3 4 / *I John* passim esp 2 15 16  
 3 1 5 4 5

18 AUGUSTINE *Confessions* bk v par 16 31c d  
 bk vii par 7 51d 52c / *City of God* bk x  
 ch 1 3 397b d 399c ch 22 416a-c bk xi  
 ch 26 438c-439a ch 37 444b 445a bk xiii  
 ch 11 477c d bk xxi ch 15 572c 573b

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 REP 2 7c 8d Q 2 1 2 REP 1 11d 12c Q 8 a 3  
 ANS and REP 4 36b 37c Q 1 A 2 141 and  
 REP 1 51c 52c A 12 13 60d 62b Q 6 31  
 325b QQ 94 101 501c 523d PART I Q 4  
 A 5 REP 1 632c 634b

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 A 4 1 a d Q 63 A 4 65d 66c Q 68 87c 96c  
 Q 79 A 3 141 and REP 1 159a II QQ 109-114  
 338a 378a-c PART II Q 2 A 4 3 392d  
 394b PART III Q 2 A 10 720c 721b QQ 7 8  
 745c 763b Q 10 A 4 R 1 2 771b 72a Q 6  
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## Chapter 6I NECESSITY AND CONTINGENCY

### INTRODUCTION

THE basic meaning of the words *necessity* and *contingency* is made known to us by the fact that we can substitute for them the familiar words *must* and *may*. Is there any being which *must* exist? asks the same question as Does anything exist of *necessity*? Are all things of the sort which *may* or *may not* exist or are they divided into those which *must* exist and those which *may* or *may not* exist? means the same as Is everything *contingent* in being or do some things exist *necessarily* and some *contingently*?

The great issues which involve the opposition between necessity and contingency are concerned with more than questions about being or existence. They also deal with cause and effect, judgment and reasoning, happenings or events, the actions and decisions of men, human history and social institutions. In each case the problem is formulated by such questions as Does everything which happens in nature or history happen necessarily? Is every thing contingent? Or are some events necessary and others contingent? Is the relation between cause and effect a necessary connection or do some causes produce their effects contingently?

Are there some propositions which the mind *must* affirm because the truth is necessary? Or are all propositions such that they *may* or *may not* be true, our affirmation or denial of them being contingent upon factors which lie outside the propositions themselves? In reasoning does the conclusion always follow by necessity from the premises if it follows at all? And are all conclusions which follow necessarily from their premises necessarily true or may some be necessary truths and some contingent?

Are men necessitated in all their acts or are certain actions contingent upon the exercise of their will and in this sense free? Does human liberty consist merely in the freedom of a

man's action from the external necessity of coercion or constraint or does it consist in a man's being able to choose whatever he chooses freely rather than necessarily? Is every act of the will necessarily determined or are some acts of the will acts of free choice?

Are certain human institutions such as the family and the state necessary? Are men compelled to live socially or can they choose the solitary life? If domestic and political society are necessary are the ways in which they are organized also necessary or are such things as monogamy in the family and monarchy in the state contingent? Are such things as war, slavery, poverty and crime necessary features of human society or are they the result of circumstances which are contingent and which can therefore be remedied?

These questions indicate the range of subject matters in which issues are raised concerning the necessary and the contingent. They also indicate that the other ideas to which necessity and contingency have relevance are too manifold to permit an enumeration of all the other chapters in which some aspect of necessity and contingency is discussed. This chapter stands to the others as a kind of summary of the theme of necessity and contingency. It assembles in one place the various topics, problems or subject matters which traditionally engage the human mind with that theme.

Two chapters alone demand specific mention as in a sense being concerned with ideas that seem to be inseparable from the notions of necessity and contingency. They are FATE and CHANCE. Though they stand opposed to one another as the necessary to the contingent, they do not cover every application of this opposition. They are largely concerned with necessity and contingency in the realm of change in the causation of the events of na-

ture or the happenings of history. They do not deal at least not directly with necessity and contingency in being, or existence in thought or knowledge in human acts and social institutions.

THE NECESSARY AND the contingent do not seem to be opposed in exactly the same way in each of the four areas—namely, being, change, thought and action—in which they raise basic issues.

In the sphere of human action, for example, writers like Hobbes, Locke, and Hume substitute the notion of liberty for contingency as the opposite of necessity. The meaning of necessity alters in consequence. Liberty according to these authors implies the absence not of all necessity, but only of external necessity in the form of compulsion. An internal necessity they think is quite compatible with complete freedom.

Hume therefore dismisses the supposed conflict between liberty and necessity as groundless. By liberty, he writes, "we can only mean a power of acting or not acting according to the determinations of the will; that is, if we choose to remain at rest, we may; if we choose to move, we also may. Now this hypothetical liberty is universally allowed to belong to everyone who is not a prisoner and in chains. Liberty when opposed to necessity, not to constraint, is the same thing with chance, which is universally allowed to have no existence."

Similarly, Locke defines liberty as a man's power "to do or forbear doing any particular action according as its doing or forbearance has the actual preference in the mind, which is the same thing as to say according as he himself wills it." Liberty in this sense, he adds, belongs not to the will, the acts of which are necessitated by their causes, but to the man who is under no external necessity in the form of compulsion "to do what is contrary to his will, or to refrain from doing what he wills."

Hobbes seems to go even further along the same line of thought. Holding that liberty is destroyed only by external impediments to action, he uses necessity in a sense which makes it consistent with liberty or its parable from it. The actions which men voluntarily do, he says, "because they proceed from their

will proceed from liberty, and yet because every act of man's will and every desire and inclination proceeds from some cause, and that from another cause, in a continual chain (whose first link is in the hand of God, the first of all causes) they proceed from necessity."

Yet if what Hobbes means by external impediments represents the same nullification of liberty which others call "compulsion" or "restraint," then there is at least one meaning of necessity which stands opposed to liberty. Enumerating the meanings of "necessary," Aristotle lists as one sense "the compulsory or compulsion, i.e. that which impedes or tends to hinder, that which is contrary to impulse or purpose, or to the movement which accords with purpose and with reasoning." It is in a related sense that Plato opposes necessity to intelligence. Necessity represents for him those resistant factors in nature which the mind of man or God must overcome or persuade to give way, if reason or purpose is to prevail in the coming to be of anything. In this sense, necessity like chance is opposed to purpose. Blind necessity and blind chance both exclude the operation of final causes, both exclude the possibility that the events of nature are directed toward an end.

WE SEEM TO HAVE found almost universal agreement on the point that there is one sense in which necessity conflicts with liberty. But this agreement does not affect the issue whether liberty is more than freedom from external coercion. There are those like Aquinas who think that man's will is free in its acts of choice with regard to particular contingent means. Aquinas agrees that what is called "necessity of coercion" is also "ther repugnant to the will." The same act cannot be absolutely coerced and voluntary. But the question is whether the will's acts are necessarily determined by causes operating within the sphere of the will itself.

Aquinas names two modes of necessity which operate within the sphere of the will and restrict its freedom. One is the natural necessity that the will should desire an ultimate end, such as the complete good or happiness. If a man wills any object at all as the ultimate goal of his life, he cannot will anything other or less than that which can satisfy all his natural desires. The

other necessity is that which concerns the use of those means which are absolutely indispensable conditions for reaching the end being sought. This may be an absolute or a conditional necessity. When the end is itself necessary (e.g. happiness) whatever means are necessary thereto necessitate the will absolutely. When a certain end is not necessary but has been freely adopted (e.g. a certain destination) and when only one means is available (e.g. one mode of transportation) then it becomes necessary to choose that means. But this necessity is conditional since it remains in force only on the condition that we continue to have a certain end in view—an end we can relinquish at any time as freely as we adopted it.

According to Aquinas this leaves a great many acts of the will which are in no way necessitated: those in which there is no necessary connection between the means and a given end and those in which a given means is necessary only on the condition that a certain end is sought. If the end need not be sought then the will is free not to choose the means of achieving it and if when the end is necessarily sought alternative means are available then the will is free to choose one rather than another.

According to this theory liberty consists in the absence of internal as well as external necessity. Furthermore liberty seems to be related positively to contingency insofar as freedom of choice depends on a contingent connection between means and ends or upon the contingent *i.e.* the conditional character of the end. On the other hand those who hold that the will is never free from internal necessity insist that the act of choice even with respect to contingent means is always caused. If being caused is equivalent to being determined—which seems to be the view of Hobbes, Locke and Hume—then whether or not we know what causes a particular choice our wills are so determined that we could not have chosen otherwise.

THE PROBLEM OF the freedom of the will in relation to the causes which determine its acts is considered in the chapter on WILL. The foregoing discussion suffices here for the purpose of throwing light on the meaning of necessity

If no view we shift from human action to the realm of becoming change or motion we face the question of the relation between necessity and causation in its most general form.

In the realm of nature the alternatives to necessity are referred to as chance and as contingency. The significance of these alternatives depends on the theory of causation. According to one opinion every effect is necessarily determined by its causes and every cause necessarily produces certain effects. Given the causal chain of past events leading up to the present every future event is necessarily determined. Nothing that ever happens could happen otherwise. Nothing happens contingently or by chance. This theory of causation is accordingly a doctrine of universal necessity or absolute determinism in the realm of change.

In nature writes Spinoza there is nothing contingent but all things are determined from the necessity of the divine nature to exist and act in a certain manner. Though nothing which exists or happens is contingent. God alone exists from the necessity of His own nature and acts alone from the necessity of His own nature. The divine necessity is therefore different from the necessity of everything else which follows from the divine nature. One is the necessity of freedom or self-determination on the other the necessity of compulsion or determination by another. That thing is called free says Spinoza which exists from the necessity of its own nature alone and is determined to action by itself alone. That thing on the other hand is called necessary or rather compelled which by another is determined to existence and action in a fixed and prescribed manner.

Hume's statement that there is no such thing as Chance in the world would appear to agree with Spinoza's denial of contingency. But Hume also seems to deny the perception of any necessary connection between cause and effect. This is not to say that events happen without cause but only that our ignorance of the real cause of any event has the same influence on the understanding as if nothing were necessarily determined by its causes.

We are never able Hume thought to discover any power or necessary connection any quality which binds the effect to the cause.

and renders the one an infallible consequence of the other. One event follows another but we never can observe any tie between them. They seem *conjoined* but never *connected*.

Our idea therefore of necessity and causation arises entirely from the uniformity observable in the operations of nature where similar objects are constantly conjoined together and the mind is determined by custom to infer the one from the appearance of the other. These two circumstances form the whole of that necessity which we ascribe to matter. Beyond the constant *conjunction* of similar objects and the consequent *inference* from one to the other we have no notion of any necessity or connexion.

But the question remains whether in the order of nature itself particular events are necessarily determined or happen contingently. The fact that we may be ignorant of real necessities does not as Hume seems to admit imply their non-existence. Our saying it is only probable that the sun will rise tomorrow may reflect our inadequate knowledge of causes rather than a real indeterminacy in the order of nature. On the other hand to say as Hume does that chance has no place in nature may mean only that nothing exists without a cause of its existence rather than that whatever happens is necessarily determined by its causes.

As indicated in the chapter on CHANCE two things must be distinguished here: the absolutely uncaused—the spontaneous or fortuitous—and the contingently caused or that which depends upon the coincidence of a number of independent causes. A given condition may be necessary to produce a certain result as for example oxygen may be necessary for combustion. But by itself it may not be sufficient for the production of that effect. If the maxim nothing exists without a cause of its existence requires a cause or causes adequate to produce the effect then the maxim is equivalent to the principle of sufficient reason. When ever two or more causes each of which may be necessary are not sufficient in separation the existence of the effect depends upon their combination and the effect is contingent if the required combination of causes is itself not necessarily caused.

The issue concerning contingency in nature thus seems to be more sharply stated when there is no reference to our knowledge or ignorance of causes. On this issue Aristotle and Spinoza appear to be more clearly opposed to one another than Hume is to either.

If things do not take place of necessity an event according to Aristotle may just as easily not happen as happen for the meaning of the word fortuitous with regard to present or future events is that reality is so constituted that it may issue in either of two opposite directions. For example a set fight must either take place tomorrow or not but it is not necessary that it should take place tomorrow neither is it necessary that it should not take place yet it is necessary that it either should or should not take place tomorrow. Though Aristotle holds that one of the two propositions in such instances must be true and the other false he also insists that we cannot say determinately that this or that is false but must leave the alternative undecided.

Aristotle's view with regard to propositions about future particular events is that our judgments cannot be either true or false not because of insufficient knowledge on our part but because future particulars are in themselves always contingent. Nothing in the nature of things or causes—existent in the past or present—necessarily determines them to happen. They will occur only if independent causes happen to coincide. Since these causes are independent—not determined to combination by their natures—the coincidence will be a matter of chance not of necessity.

This theory of contingency in the realm of change—involving an affirmation of the real existence of contingent events—raises problems for the theologian concerning God's knowledge and will. Does the fact that nothing happens contrary to God's will imply that whatever happens happens necessarily? Aquinas answers that God wills some things to be done necessarily some contingently. Therefore to some effects He has attached necessary causes that cannot fail but to others defectible and contingent causes from which arise contingent effects. It being His will that they should happen contingently.

Similarly the fact that God knows all things

infallibly does not seem to Aquinas to be inconsistent with the real contingency of some things. He explains that whoever knows a contingent effect in its causes only has merely a conjectural knowledge of it. But God knows all contingent things not only as they are in their causes but also in each one of them as actually in itself. Hence it is manifest that contingent things are infallibly known by God in much as they are subject to the divine sight in their presentality yet they are future contingent things in relation to their own causes.

This has a bearing on the difference between human and divine apprehension of future contingent things. Things reduced to actuality in time, Aquinas declares, are known by us successively in time but by God they are known in eternity which is above time. Whence to us they cannot be certain since we know future contingent things only as contingent futures but they are certain to God alone. Whose understanding is in eternity above time. Just as he who goes along the road does not see those who come after him whereas he who sees the whole road from a height sees at once all those travelling on it. Hence Aquinas continues what is known by us must be necessary even as it is in itself for what is in itself a future contingent cannot be known by us. But what is known by God must be necessary according to the mode in which it is subject to the divine knowledge.

but not absolutely as considered in its proper causes. It does not follow therefore that everything known by God must necessarily be for that statement according to Aquinas may refer to the thing or to the saying. If it refers to the thing it is divided and false for the sense is *Everything which God knows is necessary*. If understood of the saying it is compound and true for the sense is *This proposition that which is known by God is necessary*.

With regard to human knowledge Aquinas makes another distinction in answering the question whether man can have scientific or certain knowledge of contingent things. If as Aristotle seems to hold the objects of knowledge are necessary not contingent things then the realm of contingency belongs to opinion, conjecture or probability. Insofar as the particular events of nature are contingent they

cannot be objects of scientific knowledge. But according to Aquinas contingent things can be considered in two ways either as contingent or as containing some element of necessity since every contingent thing has in it something necessary for example that Socrates runs is in itself contingent but the relation of running to motion is necessary for it is necessary that Socrates moves if he runs.

The contingency that Socrates *may* or *may not* run does not alter the hypothetical necessity that *if* he runs he *must* move. In its concern with contingent things natural science is concerned only with such hypothetical necessities. Unlike physics other sciences may deal with absolutely necessary things. That the objects of mathematics are of this sort seems to be an opinion shared by James and Kant, Hume and Descartes, Plato and Aristotle. But they do not agree on whether the necessities of mathematics belong to reality or have only ideal existence i.e. whether they exist apart from or only in the human mind. This issue is connected with another major issue concerning necessity and contingency, namely whether any reality has necessary existence.

As we have seen those who discuss necessity and contingency in the domain of human acts and natural events seem to construe these alternatives differently according as they conceive liberty and chance in terms of different theories of causation. With regard to being or real existence however there seems to be a common understanding of the alternatives even among those who do not agree that God alone is a necessary being because they think that this world is also determined to exist as a necessary consequence of God's existence.

In the preceding discussions one meaning of contingency has repeatedly appeared. The contingent is that which can be otherwise. That which cannot be otherwise is necessarily as it is writes Aristotle and from this sense of necessity all its other meanings are somehow derived. This insight is sometimes expressed by the statement that the opposite of the necessary is the impossible whereas the contingent which is neither necessary nor impossible includes contrary possibilities.

In logical analysis what is called the modal



ity of necessity is attributed to judgments the contradictions of which are self contradictory e.g. if the proposition the whole is *not* greater than any of its parts represents an impossible judgment then the contradictory proposition the whole *is* greater than any of its parts represents a necessary judgment. In contrast as Hume points out *that the sun will not rise to-morrow* is no less intelligible a proposition and implies no more contradiction than the affirmation *that it will rise*. These two propositions represent contrary possibilities. No matter which turns out to be true the event could have been otherwise.

In logical analysis some complication seems to arise from the fact that the necessary has two opposites the impossible on the one hand and the possible or contingent on the other. This is usually clarified by the recognition that the possible is the opposite of the impossible as well as of the necessary. In that sense of possible which excludes only the impossible the necessary is of course possible for what is necessary can not be impossible. But in that sense of possible which implies contrary possibilities the possible excludes the necessary as well as the impossible.

From the proposition it may be it follows according to Aristotle that it is not impossible and from that it follows that it is not necessary it comes about therefore that the thing which must necessarily be need not be which is absurd. But again the proposition it is necessary that it should be does not follow from the proposition it may be nor does the proposition it is necessary that it should not be. For the proposition it may be implies a two-fold possibility while if either of the two former propositions is true the twofold possibility vanishes. For if a thing may be it may also not be but if it is necessary that it should be or that it should not be one of the two alternatives will be excluded. It remains therefore that the proposition it is not necessary that it should not be follows from the proposition it may be. For this is true also of that which must necessarily be.

Of the same thing we can say that it *may* be and that it *may not* be but we cannot say of the same thing both that it *may* be and that it *must* be or that it *may not* be and that it *cannot* be.

As Aristotle traces the implications of these modes of to be we see that *may be* implies *may not be* which contradicts *must be* and similarly that *may not be* implies *may be* which contradicts *cannot be*.

When we pass from the analysis of propositions or judgments to the consideration of being or existence the situation is simpler. Since the impossible is that which cannot exist whatever does exist must either be necessary or possible. Here the necessary and the possible are generally understood to exclude one another. The necessary is that which *cannot* not be the possible that which *can* not be.

IN SPITE OF THIS common understanding of the alternatives there are basic differences among the authors of the great books in regard to the analysis or demonstration of necessary being.

Aristotle for example tends to identify the possible with the perishable—with that which both comes into being and passes away. Those substances are necessary in contrast which are not subject to generation and corruption. Holding that the matter of the celestial bodies differs from that of terrestrial bodies with respect to the potentiality for substantial change Aristotle seems to regard the heavenly bodies as necessary beings eternal in the sense of always existing even though changeable in regard to place i.e. subject to local motion. The changing things of this earth are all contingent in being for the mutability to which their matter inclines them includes coming to be and passing away.

This analysis of necessity and contingency in terms of matter's potentialities leads to an other conception of necessary being—that of a totally immutable being which has necessary existence because it lacks matter entirely and since it consists of form alone is purely actual. Whether or not there are for Aristotle substances other than the prime mover which are necessary because they are immaterial beings he attributes pure actuality only to that one necessary being which is an unmoved mover.

Aquinas seems to adopt both of Aristotle's senses of necessary being. He treats the celestial bodies and the angels as having necessity to the extent that they are immutable. But their immutability is limited in his opinion to the

fact that they are by nature imperishable—the celestial bodies because of their matter the angels because they are simple substances not composed of matter and form. Since they are creatures they cannot be altogether immutable.

All creatures Aquinas writes before they existed were possible—and in this sense contingent—regards their being not necessary.

As it was in the Creator's power to produce them before they existed in themselves he continues—so likewise is it in the Creator's power when they exist in themselves to bring them to nothing. Furthermore at every moment of their existence their contingent being depends upon God's power. God preserves them in being Aquinas says by ever giving them existence for if He took away His action from them all things would be reduced to nothing.

In the strict sense then of necessary being no creature but only God the uncreated being is truly a necessary being—because in God alone existence is identical with essence. Only a being whose very essence it is to exist is incapable of not existing only such a being is necessary in the sense of being purely actual. All created things must be contingent for if in their case to exist belonged to their very natures God could not have created them by causing their natures to exist nor when they did exist would His power be necessary to sustain them in being.

Where Aquinas defines God's necessity in terms of the identity of essence and existence Descartes and Spinoza tend to conceive God as necessary because his essence is such that his existence follows from it. The difference may affect the meaning with which it is said that God is uncaused or that God is self-caused. If his existence is caused Aquinas writes nothing can be the sufficient cause of its own existence. According to Descartes to say that God is cause of His own existence merely means that the inexhaustible power of God is the cause or reason why he needs no cause.

Descartes position seems to be that that which is self-caused in the sense of having its existence determined by its own nature or essence is also uncaused in the sense that its existence is not caused by anything outside itself. Existence he writes is involved in the

essence of an infinite being no less than the equality of its angles to two right angles is involved in that of a triangle. But though this suggests the notion of God's existence following from His essence Descartes also says that in God existence is not distinguished from essence.

For Descartes as for Aquinas the basic point remains that that which does not depend for its being upon any external cause exists necessarily. Descartes furthermore associates the necessary existence of an independent being with that being's infinity or perfection of nature. That which is conceived as infinite or perfect cannot be conceived as lacking existence. The notion of possible or contingent existence he says belongs only to the concept of a limited thing.

Like Descartes Spinoza conceives God as the only infinite and immutable being which exists necessarily in the sense of being that whose essence involves existence. But unlike him Spinoza also attributes necessity in another sense to every finite and mutable thing which God causes to exist for in his view God not only exists necessarily but acting from the necessity of His own nature God also necessitates whatever follows as a consequence of His action. No other world than this is possible.

Things could be produced by God Spinoza writes in no other manner and in no other order than that in which they have been produced. Furthermore since whatever is in God's power necessarily follows from it and consequently exists necessarily it is impossible for this world not to have existed. The existence of this particular world is as inseparable from God's existence as God's own existence is inseparable from His essence or nature.

In the tradition of western thought there is perhaps no deeper theological issue than that which opposes the freedom of God's will to the necessity of God's acting according to His nature and which in consequence sets the possibility of other worlds (or even of no world at all) against the necessity that if God exists this particular world inevitably follows.

Taking the other's side on both points, Aquinas for example argues that since the goodness of God is perfect and can exist without other thing inasmuch as no perfection can

accrue to Him from them it follows that His willing things apart from Himself is not absolutely necessary. As for the particular features of this world Aquinas says that since God does not act from natural necessity nor from a will that is naturally or from necessity determined to the things which exist it follows that in no way at all is the present course of events produced by God from any necessity so that other things could not happen. Wherefore we must simply say that God can do other things than those He has done. Other and even better worlds than this are possible for God could make other things or add something to the present creation and then there would be another and a better universe.

Nor does the Christian theologian admit that the divine nature is subject to any necessity.

We do not put the life of God or the foreknowledge of God under necessity writes Augustine if we should say that it is necessary that God should live forever and foreknow all things as neither is His power diminished when we say that He cannot die or fall into error—for this is in such a way impossible in Him that if it were possible for Him He would be of less power. But assuredly He is rightly called omnipotent though He can neither die nor fall into error. For He is called omnipotent on account of His doing what He wills not on account of His suffering what He wills not for if that should befall him He would by no means be omnipotent. Wherefore He cannot do some things for the very reason that He is omnipotent.

ONE OTHER TRADITIONAL issue is raised by the conception of God as a necessary being or more strictly as the only necessary being in the sense of having a nature which involves existence. It is formed by opposite views of the validity of the so-called ontological or *a priori* argument for God's existence.

Both Descartes and Spinoza argue like Anselm and others before them that since God cannot be conceived as not existing it is impossible in fact for God not to exist. Those who reject such reasoning do not deny that it is unintelligible or self-contradictory to think of God as merely possible rather than necessary

as requiring a cause outside Himself in order to exist. Kant for example admits that existence must be included in the conception of God as *ens realissimum*—the most real and perfect being. But he denies that the real existence of the object so conceived is implied by the logical necessity of the conception itself.

This amounts to saying that it is possible for a being we cannot conceive except as existing not to exist. Aquinas seems to make the same critical point when he says that even if every one understood by the word God something than which nothing greater can be conceived and therefore a being necessarily existing still it would not follow that he understands that what the word signifies actually exists but only mentally.

Stated in its most general form the problem is whether that which is inconceivable by the human mind is impossible in reality or whether that which is logically necessary or necessary in thought is also necessary in fact or existence. However that issue is resolved it must be noted that among the so-called *a posteriori* demonstrations of God's existence or arguments from the existence of certain effects to the existence of their cause one mode of reasoning turns upon the distinction between contingent and necessary being.

If contingent beings exist (as it is evident they do from the mutability and perishability of physical things) and if each contingent being is by definition incapable of causing its own existence and if one contingent being cannot cause the existence of another and if every thing which exists must have a cause for its existence either in itself or in another then from all these premises it would seem to follow that a necessary being exists.

Here the conclusion may follow with logical necessity from the premises but whether it is necessarily true depends upon the truth of the premises. That in turn seems to depend upon the understanding of what it means for any thing to be contingent or necessary in being. It may also depend on whether or not the reasoning escapes Kant's criticism of all *a posteriori* arguments for the existence of a necessary being namely that such reasoning always implicitly contains the ontological argument and is thereby invalidated.

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## REFERENCES

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**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* BK II [265 283] 12d.

**BIBLE REFERENCES.** The references are to book, chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. Old Testament *Leviticus* 11:45—(D) II *Ezdras* 7:46.

**SYMBOLS.** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole etc. etc. passim signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

# 1 The meaning of necessity and contingency the possible and the impossible

7 PLATO *Cratylus* 103d 104a / *Timaeus* 455c 456a 459d 465d-466a

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9 ARISTOTLE *Motion of Animals* CH 4 [699<sup>a</sup> 12 700<sup>a</sup>] 234d 235a / *Rhetoric* BK I CH 19 [1392<sup>a</sup> 1393<sup>a</sup>] 639c 640c

10 PLOTINUS *Fourth Ennead* TR VIII CH 4-5 203a c / *Sixth Ennead* TR VIII CH 9 347a b

11 AUGUSTINE *City of God* DOCT I CH 35 653b-c

12 AQUINAS *Summa Theologiae* P RT I Q 2 A 3 ANS 12c 14a Q 14 8 R P 2 82c 83b A 9 ANS and REP 3 83b d A 13 86d 88c Q 19 A 3 esp REP 4 110b 111c A 8 116 d Q 22 A 2

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20 AQUINAS *Summa Theologiae* PART I II Q 112 A 3 ANS and REP 1 358a d PART III Q 65 A 4 AN and R 1 883d 884a c

23 HOBES *Leviathan* P RT II 113b-c

31 DESCARTES *Meditations* V 93b 94c / *Objections and Replies* 112d 114c 126b 127

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35 HUME *Human Understanding* SECT VI 469d-478a SECT VIII DIV 62-75 478b-485a PART II esp DIV 64 478d-479b DIV 2 483a c DIV 75 481c 485a

42 KANT *Pure Reason* 85d 88a 90c 91a 95a d 107b c 129 145c esp 130b 133c 140b d 143a 175c d 176d 177a 179c 180c 185a b / *Judgement* 540 578a esp 550c d 552 d 555a 564a 65b 568a-c 569a 570c 575b 603b-c

46 H GEL *Philosophy of Right* ADDITIONS 162  
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53 JAM S *Psychology* 301b 302a 851a

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7 PLATO *Laws* BK X 762b 765d

8 ARISTOTLE *Interpretation* CH 13 [23 18 26]  
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577a BK XII CH 6-7 601b 603b esp CH 7  
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12 LUCRETIUS *Nature of Things* BK I [483-634]  
7 8d

17 PLOTINUS *Sixth Ennead* TR VIII CH 7-21  
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18 AUGUSTINE *Confessions* BK I P I 3b c  
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33 PASCAL *Pensées* 469 256a

42 KANT *Pure Reason* 97b-c 140b d 145c  
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46 H GEL *Philosophy of Right* PREF M 7a  
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7 PLATO *Laws* BK X 758b-765d esp 762b 765d

8 ARISTOTLE *Physics* BK VIII CH 1-6 334a

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BK XII CH 6-7 601b 603b

18 AUGUSTINE *Confessions* BK I par 10 3b  
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19 AQUINAS *Summa Theologica* PART I Q 2 10c

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- 11 L CRETILS *Nature of Things* BK I [449-482]  
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- 19 AQUINAS *Summa Theologica* P RT I Q 3 A 4  
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439c-441a / *Metaphysics* BK VII CH 7  
[1 32 25 22] 555a b BK IX CH 5 573a c  
BK XI CH 8 593a d BK XII CH 3 [1070 4-9]  
599b
- 9 ARISTOTLE *Parts of Animals* BK I CH 1  
[64 10 5] 162b 163a / *Ethics* BK III CH 3  
[11 2 18 3] 338a b BK X CH 3 [1173 4 7]  
427d / *Rhetoric* BK I CH 10 [1369 31 4]  
612c d
- 12 LUCRETIVUS *Nature of Things* BK I [1022  
03a] 13c d BK II [184 307] 17b-19a [1052  
1 63] 28b c BK V [55-58] 61d [306-310]  
65a [4 6-13] 66c d
- 12 AURELIUS *Meditations* BK IX SECT 28 293d  
294a SECT 39 295a
- 17 PLOTINUS *Third Ennead* TR I 78a 82b TR  
II CH I 82c / *Fourth Ennead* TR III CH 16  
150c d TR IV CH 34 176b d
- 19 AQUINAS *Summa Theologica* PART I Q 11  
A 3 86d 88c Q 19 A 3 110b 111c A 8 116a d  
Q 22 A 2 128d 130d A 4 131c 132b Q 23  
A 6 137d 138c Q 25 A 3 REP 4 145b 147a  
A 4 147a d Q 86 A 3 463b d Q 103 A 1 REP  
3 528b 529a AA 7-8 533b-534b Q 115 A 6  
ANS 591d 592d
- 30 BACON *Advancement of Learning* 45b c
- 31 DESCARTES *Discourse* PART V 55a 56a
- 31 SPINOZA *Ethics* PART I DEF 7 355b AXIO 3  
355d PROP 17 CO OL 2 362b PROP 26 29  
365b 366c PROP 32 33 367a 369a P RT I  
36 369a b PART II PROP 13 374d 376c  
LE M 3 COROL 378d 379a PROP 4 381a c  
PART III 39 a d PART IV PROP 2 4 425a d  
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- 35 BERKELEY *II man knowledge* SECT 93 431b  
 5 CT 106 433 d
- 35 HOME *Himan U dersta dng* SECT VI 469d  
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- MO TESQUIEU *Spi it of La s* BK I 1a b
- 42 KAN *P e Reason* 45b ■ 72c 85d e p 74b-  
 76c 82a 83b 140b d 143a 144a 145c 153a  
 171b 172c / *Practic l Reason* 331c 333a /  
*Judgement* 566 b
- 46 H *Phl ophy of II t ry* INTRO 160c  
 190b
- 51 TOLSTOY *War and Peace* ■ 1 OGU II 675a  
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- JAMES *Psychology* 823a 825a p m
- 54 FR UD *General Introd ict on* 454b-c 592a b
- 3c Th distinct on betw n the esseotual and  
 the ac dental cause the cont ngent ef  
 fect contingency and chance
- 7 PL O *Ti n* ■ 455a 456a 465d 466a
- 8 A TOTLE *Phys cs* ■ 1 CH 5 [186 32 b 6]  
 263d 204 K I CH 3-6 271a 275 CH 8  
 [19] 34 b ] 276c d / *Met phy cs* BK V CH 2  
 [1013 34 i 14] 534 15 535c 536a CH 30  
 547a d BK VI ■ 8 593a d
- 12 ALA IUS *Mediatio s* ■ BK II SECT 3 257a b
- 19 AQL NAS *Summa Th ol g a* PART I Q 11  
 3 ANS 49a Q 14 13 86d b Q 9 A 3  
 110b-111c A 8 116a d Q 2 A 2 R P I 128d  
 130d 4 131c 132b Q 57 A 3 ANS 297b  
 298a Q 10 A 5 R I 531b 532a A 7 REP 2  
 533b d ■ 115 A 6 591d 592d Q 116 A  
 592d 593d A 3 594 595a PART II Q I  
 4 665d 666 c
- 23 HO A S *Levathi n* PART IV 272b
- 31 S IVOZ *Eth cs* PART OP 6 COROL 2  
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 ■ 3 424a
- 35 HUMA *H m n U dersta dng* s T VIII  
 IV 67 480 481 DV 74 484 c
- 42 KANT *Pur Reaso* 144a 145 153a / *Prac  
 t al Re on* 311d 314d / *Jud em nt* 550a  
 551a,c 553 555 584c d
- 46 HE EL *Phl ophy f R g t* INT O par 3  
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- The ecess ty of contingent e ents abso-  
 l t nd hypoht c l or cond tional  
 nec ss ty necessit on by flic nt or  
 mat rial and fcl al or fom l c u
- 8 A ISTOTLE *Phys cs* ■ CH 9 277b 278a c  
 / *Gener t n a d C r r pt* BK II CH I  
 439-441 c / *Met phy s* s K V ■ 5 [1 i  
 6-25] 529 d K V CH 5 [0 5 6] 535  
 [1013 34-6] 535d BK V CH 8 [0 33 24 b 9]  
 556b d 9 [1 34 b 9] 557d 558a BK IV  
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 586c d K X ■ 6 [ 63 17 28] 591b-c /  
 S I ■ ■ 8 [120 b 6-23] 652a K II  
 ■ 12 3 667a 668d / *Sl cp* CH 2 [455 b 3  
 28] 698b
- 9 ARISTOTLE *Parts f A m l* BK I ■ 1
- [639 b-64 b] 161d 165d esp [639 b 24-640 10]  
 162a b [642 i 15] 165a b [642 30-34] 165c d  
 BK II CH I [646 b 28-47 b 1] 170d 171d K  
 I CH 2 [647 b 21-664 12] 191b d C I 9 [672 i-  
 4] 200d 201a ■ IV CH 5 [680 b 3-681 4]  
 210d 211c / *Generation of Animals* BK IV  
 CH 5 [67 b 15] 309a BK V CH [178 5 b 20]  
 320a 321a CH 8 [789 b 21] 331a c / *Polu cs*  
 BK I CH 2 [1 2 b 30-36] 446a b
- 18 AUGUSTINE *City of God* BK XXII CH 4  
 610c 611b
- 19 AQUINAS *Summa Th ol g a* PART I Q 10  
 A 3 AN and REP I 110b 111c A 7 REP 4  
 114d 115d A 8 REP 1-2 116a d Q 23 A 6  
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- 21 D NTE *Duine C m d y* PAR DISC XVII [13  
 45] 132b c
- 30 BACON *Ad a cement f Learn ng* 45a 46a  
 esp 45c
- 31 SPIVOZA *Eth cs* PART I ■ OP 16-17 362a  
 363 PRO 3 364a 365a PROP 26 29  
 365b 366c PROP 33 36 367b 369b AR  
 DE 5 373b ■ P RT IV DEF 3 424a
- 42 KANT *Pu e Reason* 140b d 143a 164 171  
 179 180c / *Fund Prin Metaphysic f Mo l*  
 262a 279d esp 263a 264d 265c 267a 285c  
 286a / *Judgement* 491c-49 b 550 551  
 553 555 557 538b 564a c 581a 582c  
 584c d
- 46 HE L *Philosophy of Hist y* INTRO 158a-c
- 51 TOLSTOY *War a d Peace* BK VIII 563a b  
 EPILOGUE I 650b c OGU I 679b
- 3c The g ouads of conti gency in the phe  
 nomen lod e l adeterm n cy or  
 gnoranc of c u
- 8 ARI OTL *I terpre at on* ■ 9 28a 29d /  
*Phys s* K ■ 4-6 272 275a / *Memory and  
 Rem se* ■ 2 [43 30 b] 694b
- 19 AQUINAS *S mm Th ol g a* PART I Q 4  
 A 13 86d 88c Q 19 A 8 116a d Q 2 A 4  
 131 132b Q 86 A 3 463b d
- 23 HO *Levathi a* ART IV 272b
- 31 S VO *Eth* RT RO 33 HO I  
 367 d ART RO 7 31 384b 385 esp  
 P O 31 COROL 385 PRO 41 389b 390a  
 PAR 395a d D ■ 395d RO I 3  
 396a 398 ART V D 3 424a
- 35 HUMA *H m n Understa d g* T V 469d  
 470d T V I DV 67 480 481a DV 74  
 484a c
- 42 KANT *Pu e Re on* 161a 172c / *Intro M ta  
 phys f M l* 387a d / *Judgement* 555a d  
 564a
- 46 H L *Phl phy f R t* RT II par 118  
 43 P RT I P 3 4 107b
- 49 D RWIN *Origin of Sp cs* 37 d 65a /  
*D ent f M* 593d
- 51 TOLSTOY *W r a d Pace* ■ O U 646c  
 647b
- 53 J I S *Psychol gy* 377b 851b p [fn ]
- 54 FR UD *General Int d t* 454b-c



#### 4 Necessity and contingency in the realm of thought

##### 4a The necessary as the domain of knowledge the contingent as the object of opinion certainty doubt and probability necessary truths

7 PLATO *Republic* BK VI 384b 388a

8 ARISTOTLE *Categories* CH 5 [10<sup>b</sup> 19] 8b 9a / *Prior Analytics* BK I CH 13 [3<sup>b</sup> 23] 48b-d / *Posterior Analytics* BK I CH 2 [7<sup>b</sup> 16] 97d 98a [72<sup>a</sup> 25<sup>b</sup>] 98d 99a CH 4 8 100a 104b CH 30 119d CH 33 121b 122a-c / *Metaphysics* BK VI C 12 548c 549c BK VII CH 15 [1039<sup>b</sup> 31 1040 8] 563d 564a BK IX CH III 577c 578a-c BK XI CH 8 [1064<sup>b</sup> 15 1065 6] 593a b

9 ARISTOTLE *Ethics* BK I CH 3 [1094<sup>b</sup> 23 27] 339d 340a BK III C 13 [1112 19-212] 358a c BK VI CH 3 [1130<sup>b</sup> 18 24] 388b c CH 5 [140 30<sup>b</sup>] 389a b [1140<sup>b</sup> 24 28] 389c / *Rhetoric* BK I CH 2 [1357 14 221] 596d 597c

10 AQUINAS *Summa Theologiae* PART I Q 14 A 13 NS AND REP 3 86d 88c Q 19 A 3 REP 6 110b 111c Q 47 A 1 REP 3 256a 257b Q 79 A 9 REP 3 422b 423d Q 82 A 2 ANS 432d 433c Q 86 A 3 463b d

20 AQUINAS *Summa Theologiae* PART I I Q 84 A 1 R III 3 174b 175a Q 94 A 4 ANS 223d 224d

31 DESCARTES *Rules* II 2a 3b XII 21d 22b / *Discourse* PART II 47a PART IV 52a / *Meditations* I 75a 77c I 93b 96a / *Objections and Replies* I 124d 125a

31 SPINOZA *Ethics* PART II PROP 44 389b 390a

35 LOCKE *Human Understanding* BK II CH III SECT 9-16 315c 317c esp SECT 14 316b d SECT 28 29 322a 323a CH VI SECT 5 16332b 336d passim C I IX SECT 1 349a c XII SECT 9 360d 361b CH XV SECT 1 3 365 d CH XVII SECT 2 371d 372b SECT 15 17 378d 379c

35 HUME *Human Understanding* g SECT IV DIV 20-1 458a-c DIV 30 462 SECT XII DIV 131 132 508d 509d passim

42 KANT *Pure Reason* I 4 II 194b c 228c d 240b-243c / *Intro Metaphysic of Morals* 387a d / *Judgement* 601d 603a b 603d 604b

III TOLSTOY *War and Peace* BK IX 365a b BK X 441b-442a

53 J J *Psychology* g 851a 890a esp 851a 867a 868b 879b 889a 890

#### 4b Practical necessity as a cause of belief

31 DESCARTES *Discourse* II RT II 48b 50b / *Objections and Replies* 126a b

33 PASC *Pensées* 184 241 205 217b

35 HUME *Human Understanding* g SECT XII DIV 126-128 507a 508a

42 KANT *Pure Reason* 124d 128a 236b-243c esp 239 240b 241d 242c / *Fund Prin Meta*

*physic of Morals* 279b d 287d / *Practical Reason* 291a 292a 314d 321b 341a 347b 351b 352c / *Intro Metaphysic of Morals* 390b d 391a / *Judgement* 588a 607c c p 593d 596c 599d 600d 601d 602a, 603a b 604d 606d 608c 611d

53 JA *ies Psychology* 223a 225a esp 224a 225a 653a 820b 823b esp 822b 823b

#### 4c The truth of judgments concerning future contingents

8 ARISTOTLE *Interpretation* CH 9 28a 29d

18 AUGUSTINE *City of God* BK V CH 10 215c 216c

19 AQUINAS *Summa Theologiae* PART I Q 14 A 13 86d 88c Q 57 A 3 297b 298a Q 86 A 4 463d 464d

21 DANTE *Divine Comedy* PARADISE XVII [13 45] 132b c

22 CHAUCER *Troilus and Criseida* BK IV STANZ 143 146 107b

32 MILTON *Paradise Lost* BK III [80-134] 137a 138a

51 TOLSTOY *War and Peace* BK IV 365a b BK X 441b 442 BK XIII 584c 585c III LOGUE II 685a

#### 4d Mathematical necessity necessity in the objects of mathematics and in mathematical reasoning

7 PLATO *Republic* BK V 361b-c

8 ARISTOTLE *Physics* BK II CH 9 [20 13 29] 277c d

31 DESCARTES *Rules* II 3a b / *Discourse* PART II 47b c PART IV 52d 53a / *Meditations* V 93b c / *Objections and Replies* 113c 114a

35 LOCKE *Human Understanding* g BK IV CH III 3 c 18 20 317d 319c SECT 29 322c CH IV SECT 6 325 II CH VII SECT 6 338b-c C I XI SECT 3 364a

35 HUME *Human Understanding* SECT IV DIV 20 458a II SECT XII DIV 131 508d 509a

42 KANT *Pure Reason* 15c 16c 17d 18d 68a 69c 211c 218d esp 211c 212a 215d 217a 228c d / *Practical Reason* 295b d 330d 331a / *Practical Metaphysical Elements of Ethics* 376c d / *Science of Right* 398c 399c esp 399a b / *Judgement* 551a 553c

46 HEGEL *Philosophy of Right* 147a 20 par 2 9b 10a

53 JAV *s Psychology* g 874a 878a

#### 4e Necessity and contingency in logical analysis

##### 4e(1) The modality of propositions or judgments modal opposition

8 ARISTOTLE *Interpretation* CH 12 13 32d 35c / *Prior Analytics* BK I C 13 40a-c

19 AQUINAS *Summa Theologiae* PART I Q 14 A 13 REP 2 86d 88c

- 4 KANT *Pure Reason* 14c 15c 39c 41c esp  
40d-41c / *Judement* 603a-603b  
53 J 125 *Psychology* 831a

4c(2) Modal ty in reasoning the logical necessity of inference the necessity and contingency of premises and conclusions

- 8 ARISTOTLE *Prio Analytics* BK I CH I [24<sup>b</sup>18  
26] 39c CH 8 22 45b 57b / *Posterior Analytics*  
BK I CH 6 [ 5 21 2<sup>q</sup>] 103b / *Metaphysics* BK  
V CH 5 [1015<sup>b</sup>6-g] 535d 536a  
9 ARIST TLE *Rhetoric* BK I CH 2 [1357<sup>a</sup>14 30]  
596d 597  
12 EPICTETUS *Discourses* BK I CH 7 112d 113d  
CH 26 131b  
18 AUGUSTINE *Christian Doctrine* BK I CH 31-  
34 651d 653b  
19 AQUINAS *Summa Theologica* PART I Q 19  
A 8 REP 3 116a d Q 44 A 1 REP 2 238b 239  
Q 82 A 2 ANS 432d 433c PART I II Q 13  
A 5 ANS 675c-676b A 6 REP 1 2 676c 677b  
23 HOBBS *Leviathan* PART I 65c-d 71c  
42 KANT *Pure Reason* 14d 17d 18a 110d  
111a 194b d

5 Necess ty and contingency in human life and society

Liberty and necessity in human conduct the voluntary and the compulsory

- 4 HOMER *Iliad* 3a 179d esp BK XXIV [513-531]  
176d 177a  
5 AECHYLUS *Agamemnon* [160 226] 53d 54c  
5 EURIPIDES *Hecuba* [864 867] 360b  
6 THUCYDIDES *Peloponnesian War* BK IV  
461d 462a BK V 506b c  
7 PLATO *Politicus* 56b 59c 64a / *Cratylus*  
95b-c / *Republic* BK V 361b c BK X 439b  
41a c  
8 ARIST TLE *Metaphysics* BK IX CH 5 573a c  
9 ARISTOTLE *Ethics* K I CH I 3 355b d  
359a / *Rhetoric* K I CH 2 [1357<sup>a</sup>14 21]  
596d 597c CH 10 [ 368<sup>b</sup>1 136<sup>a</sup>27] 611 612a  
CH II [137 8 17] 613b c  
12 LOCKE *Essay Concerning Human Understanding* BK I [251 293]  
18b-d  
12 ALFREDUS *Metaphysics* 253 310d esp BK V  
S T 8 269d 270b S CT 19- 272 BK V  
S CT 8 274b S CT 13 274c ECT 39 277d  
SECT 50 279a b SECT 58 279d BK VI SECT  
54 283b SECT 58 283c d SECT 68 284c d  
K VIII SECT 17 286d ECT 31 287d 288a  
SECT 35 288b S CT 45 47 289a c, BK IX  
SECT 41 295c BK X SECT 3 296d SECT 6  
297 b SECT 25 299c SECT 33 300c 301a  
c 35 301b BK XI SECT 3 307b d SECT  
II 13 308b c  
13 GREGORY *Arithmetica* BK IV 68d 69b BK VI  
91b-d  
17 PLOTINUS *Third Ennead* TA I c 8 10 81d  
82b
- 18 AUGUSTINE *Confessions* BK VIII PAR III II  
55c 56b BK X PAR 65 88a / *City of God* BK  
V CH I 10 207d 216c BK XIX CH 5-6 513d  
515a C I 15 521a / *Christian Doctrine* BK II  
CH 25 26 649b-650 CH 39 40 654c-656a  
19 AQUINAS *Summa Theologica* PART I Q 23  
132b-141b Q 83 A 1 436d 438a PART I II  
QQ 6-10 644a 666a  
21 DANTE *Divine Comedy* PURGATORY XVI  
[ 2 114] 77b-78a PARADISE I [91 142] 107b  
d VIII [91 148] 117d 118c  
22 CHAUCER *Troilus and Criseyde* BK IV STANZA  
137 154 106b 108b / *Knights Tale* [1312  
1324] 181b [2937 3046] 209a 210a / *House of  
Frisen's Tale* [15 236-256] 456b 457a  
23 HOBBS *Leviathan* PART I 59b 86c PART II  
112d 113c 163d 164a  
25 MONTAIGNE *Essays* 52c 53c 216c 219a  
5 8c 529b  
26 SHAKESPEARE *Julius Caesar* ACT I SC II  
[13 141] 570d  
27 SHAKESPEARE *King Lear* ACT I SC II [128  
164] 249a b ACT IV SC III [34 37] 272a  
31 SPINOZA *Ethics* PART III 395a d PART IV  
P OF 2 4 425a d APPENDIX I II 447a b  
32 MILTON *Paradise Lost* BK III [80-134] 137a  
138a  
33 LA ROCHEFOUCAULT *Pensées* 821 331b 332a  
35 LOCKE *Human Understanding* BK II CH XXVI  
SECT 7 27 180a 184c SECT 57 193b-c SECT  
73 198c 199c CH XXVIII PCT 18 209a  
35 BERKELEY *Human Knowledge* S CT 144  
441d  
35 HUME *Human Understanding* SECT VIII  
478b-487a  
38 ROUSSEAU *Equality* 337d 338a  
42 KANT *Pure Reason* 133a 190c d 234c 235a  
/ *Fundamental Principles of Metaphysics* 279b d  
287d esp 279b d, 282c 286a- / *Practical  
Reason* 292a 293b 307d 314d / *Science of  
Right* 400b d 402a / *Judgement* 571c 572a  
587a 588a  
44 BOSWELL *Johnson* 392d 393a 549c  
46 HEGEL *Philosophy of Right* INTRO PAR 15  
16a b PAR I PAR 91 92 35d 36a PART II  
P = 118 42d 43b ADDITIONS 12 118a c 75  
128a / *Philosophy of History* INTRO 158c  
159b 160 190b passim, esp 162 165b  
168a d 186b c  
48 MILLER *Moby Dick* esp 121a 159 395a  
397a  
51 TOLSTOY *War and Peace* BK V 221b d BK  
VI 275a 276b BK VII 303d 304b BK IX  
343b d EPILOGUE I 688a 694d  
53 JARVIS *Psychology* 84 94b esp 89b 93  
291a 295b 387b 388a 796a 798b passim  
820b 827a esp 821b 823b  
54 FREUD *Origins and Development of Psycho-  
analysis* 13a-c / *General Introduction* 453t  
476a c passim esp 454b 462d 486b-488c  
esp 486d 487a

(5a) Liberty and necessity in human conduct the voluntary and the compulsory

5a(1) The necessity of the will the range of its freedom

9 ARISTOTLE *Ethics* BK III CH 4 5 359a 361a  
11 EPICTETUS *Discourses* 10 a 245a c esp BK I CH I 105a 106c CH I 124a 125a CH 9 134d 138a BK II CH 5 142c 144a II 10 148c 150a CH 23 170a 172d BK II CH 2 177c 178d CH 10 185d 187a CH 13 189c 190a CH 18 192a II BK IV CH I 213a 223d

12 AURELIUS *Meditationes* 253a 310d esp BK II SECT 16 259a BK V SECT 19 272a BK VI SECT 16 275b d SECT 22 276a BK VII SECT 16 280d BK V II SECT 16-17 286d SECT 28 287c SECT 48 289c BK X SECT 34 35 301a b BK XI SECT 3 307b d

18 AUGUSTINE *City of God* BA I CH I 10 207d 216c esp CH 10 215c 216c BK VII CH 6 346a

19 AQUINAS *Summa Theologiae* PART I Q 18 A 3 ANS 106b 107c Q 19 A 3 ANS 110b 111c A 10 ANS and REP 2 117d 118b Q 60 AA 2 3 311a 312b Q 62 A 8 323c 324a Q 82 AA 1 2 431d 433c Q 83 A 1 435d 438a A 2 ANS 438a d PART I Q 1 A 5 613a 614a Q 5 A 4 ANS and REP 2 639a 640b A 8 REP 2 642d 643d Q 0 662d 666a c Q 13 AA 3-6 674c 677b Q 17 A 5 REP 3 689c 690b A 6 690b d

21 DANTE *Divine Comedy* URGATORY XVIII [1] 79d 80c XXI [10-2] 85b d

23 HOBBS *Leviathan* PART III 165c

31 DESCARTES *Discourse* PART III 50b / *Objections and Replies* AVIO VII 132a 141d 215d 216a 228c

31 SPINOZA *Ethics* PART I PROP 17 362b 363c esp SCOL 363 c PROP 32 367a II PART I PROP 48 49 391a 394d

35 LOCKE *Human Understanding* BK II CH XVI SECT 12 180d 181a sec 59 193d 194a

42 KANT *Practical Reason* 164a 165c e p 164b c 234c 238a esp 235c d 236d 237a / *Fundamental Principles of Metaphysics* 256a b 259 260c 264d 265b 265c 267d esp 266c 267d 268b 286a 287d / *Practical Reason* 296a d 325d 326b / *Judgement* 595a d

46 HEGEL *Philosophy of Right* INTRO par 8 21 14 17c PART I par 118 42d 43b ADDITIONS 90 130b d

53 JAMES *Psychology* 291a 295a esp 291a b 293a 383a 821b 822b

5a(2) Categorical and hypothetical imperatives express necessary and contingent obligations

42 KANT *Practical Reason* 190c d 236d 237a / *Fundamental Principles of Metaphysics* 253a 287d esp 253d 254d 260a 261d 263a c 264d 268d 272a b 276b 277 277d 279d 281c 282d / *Practical Reason* 297a 314d esp 297a

298a 307d 314d / *Practical Metaphysics* c / *Elements of Ethics* 373d / *Intro Metaphysics* c of *Morals* 386b 387a c 388b II 390b d 391c 392b 393a / *Science of Right* 397c 398a 416b 417b / *Judgement* 571c 572a 595a d 605d 606b [in 2]

46 HEGEL *Philosophy of Right* PART II par 132 135 46b-47d ADDITIONS 84 129b

5a(3) Human freedom as knowledge or acceptance of necessity

12 EPICTETUS *Discourses* BK I CH 12 118d 120b BK IV CH I 213a 223d C I 4 275a 2 8a

31 SPINOZA *Ethics* PART V PROP 6 453d 454a

46 HEGEL *Philosophy of Right* INTRO par 8 II 14c 17c esp par 15 16a b par 21 17a c PART III par 144 145 55b c ADDITIONS 12 118a c 93-94 132a II 159 142d / *Philosophy of History* INTRO 170c 171c

5b The necessity of family and state the contingency of their forms and institutions

7 PLATO *Republic* BA II 311b 312b 316c 319 BK V 361b c

9 ARISTOTLE *Politics* BK I CH 2 445b 446d BK III CH 6 [ 278<sup>b</sup> 15 20] 475d 476a

12 LUCRATIUS *Nature of Things* BK V [1011 102 174b c

18 AUGUSTINE *City of God* BK XIV C I 14 17 530a 523a

19 AQUINAS *Summa Theologiae* PART I Q 9 A 1 488d 489d Q 96 A 4 512d 513c Q 98 A 1 516d 517c

20 AQUINAS *Summa Theologiae* PART II Q 95 A 4 ANS 229b 230c Q 105 A 4 A 3 318b-321a

23 HOBBS *Leviathan* PART I 84c 86b 86d 87 91a b 96a b PART II 99a 101a PART IV 273a b

25 MONTAIGNE *Essays* 462d-463a

31 SPINOZA *Ethics* PART IV PROP 18 SCHOL 429a d PROP 35 COROL 2 433 d PROP 37 SCHOL 2 435b 436a APPENDIX 447a-450d

32 MILTON *Paradise Lost* BK VII [364 436] 240a 241b

33 PASCAL *Pensées* 304 227b 228a 306 228a

35 LOCKE *Tolerantism* 16a-c / *Civil Government* CH II SECT 13 15 28a c CH VI 36a-42a P-ISM CH VI SECT - 83 42b-43c C I 12 53c 54d

36 SWIFT *Gulliver* PART I 29b 30a

36 STERNE *Tristram Shandy* 216b 261b-261a 410a-411a

38 MONTESQUIEU *Spirit of Laws* I 2a 3b BK VIII 187d 188a

38 RUSSEAU *Political Economy* 367b / *Social Contract* BK I 387b d 392a

39 SPINOZA *Health of Nations* BK V 309 c

42 KANT *Science of Right* 418d 433c-434a

43 DECLARATION OF INDEPENDENCE [1] 11 b

43 MILL *Representation of Government* 327b d 332d pas m / *Utilitarianism* 460a-461c

- 44 BOSWELL *Johns n* 102a b 120a = 125c d  
 46 HEGEL *Philosophy of Right* PART III par 18z  
 64a par 264 267 84a b par 270 84d 89c  
 ADDITION 116 135c d 16 143b-144c /  
*Philosophy of History* INTRO 170c 171c 173a  
 175c P RT II 262a c  
 49 D WIN *Descent of Man* 579b 581c  
 50 MARX *Capital* 241c d  
 50 M X EN L S *Communist Manifesto*  
 421c d 427b 428a  
 54 FR UD *Capitalization and Its Discontents* 781d  
 782d
- 5c Necessity and contingency in relation to  
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## ADDITIONAL READINGS

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I Works by authors represented in this collection

II Works by authors not represented in this collection

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## Chapter 62 OLIGARCHY

### INTRODUCTION

IN the great books of political theory the word oligarchy is usually listed along with monarchy and democracy among the traditional names for the forms of government. According to the meaning of their Greek roots oligarchy signifies the rule of the few, monarchy the rule of one and democracy the rule of the people—or the many. These verbal meanings are somewhat altered however when we consider the actual conflict between oligarchy and democracy in Greek political life. It involved an opposition not simply between the few and the many but between the wealthy and the working classes. The contest between the two factions for political power dominated more than a century of Greek history around the Periclean age and that fact justifies Aristotle's remark that oligarchy and democracy are the two principal conflicting forms of government.

We would not so describe the political struggle of our time. We would not speak of oligarchy as one of the principal forms of government in the world today. Instead we tend to think in terms of the conflict between democracy and dictatorship or despotism. Even when we look to the background of present issues it is the age old struggle between absolute and constitutional government—or between monarchies and republics—which seems to supply the obvious historical parallels for the contemporary conflict between the principles of arbitrary and legal government. The traditional terms of political theory, with the exception of oligarchy, thus appear to have a certain liveliness in the consideration of current problems. But though it does not have such frequency in our speech or familiarity in our thought oligarchy may be much more relevant to the real issues of our day than appears on the surface.

Certainly within the framework of constitu-

tional government oligarchical and democratic principles are the opposed sources of policy and legislation. In modern as in ancient republics the division of men into political parties tends to follow the lines of the division of men into economic factions. The ancient meanings of oligarchy and democracy especially for those observers like Thucydides and Aristotle who see the rich and the poor as the major rivals for constitutional power indicate the fusion of political and economic issues.

The difference between oligarchy and democracy says Aristotle is not well-defined by reference to the few and the many unless it is understood that the few are also the rich and the many the poor. The issue is not whether the few are wiser than the many or whether it is more efficient to have the government in the hands of the few rather than the many. Such issues have been debated in the history of political thought but they are more appropriate to the alternatives of aristocracy and democracy than to the conflict between oligarchy and democracy.

The historic struggle between oligarchs and democrats—whether described as a struggle between rich and poor, nobility and bourgeoisie, landed gentry and agrarian peasants, owners and workers, classes and masses—is a struggle over the political privileges of wealth, the rights of property, the protection of special interests. In the tradition of the great books, Marx and Engels may be the first to call this struggle the class war but they are only the most recent in a long line of political and economic writers to recognize that the economic antagonism of rich and poor generates the basic political conflict in any state. Any city however small says Socrates is in fact divided into two, one the city of the poor, the other of the rich, these are at war with one another.

OLIGARCHY IS NOT always defined as the rule of the wealthy nor is it always conceived as the opponent of democracy on constitutional questions. In the *Statesman* for example Plato first divides the forms of government into monarchy the rule of the few and the rule of the many and then divides the rule of the few into aristocracy which has an auspicious name and oligarchy. Here aristocracy and oligarchy seem to be regarded as opposites the one a government in which the few rule according to the laws the other lawless government by the few. In both the few are the wealthy hence wealth is no more characteristic of oligarchy than of aristocracy.

Some political theorists make no reference to wealth at all in the discussion of oligarchy. Hobbes divides the forms of government according to whether the sovereign power is in the hands of one or more and if in the hands of more than one then whether it is held by some or all. He calls the several forms of government monarchy (one) aristocracy (some) and democracy (all). There are other names of government in the histories and books of policy. He adds such as *tyranny* and *oligarchy*. But they are not the names of other forms of government but of the same forms mislabeled. For they that are discontented under *monarchy* call it *tyranny* and they that are displeased with *aristocracy* call it *oligarchy*. Like Hobbes both Locke and Rousseau use no criterion except numbers to distinguish the forms of government. Locke calling government by the few oligarchy and Rousseau calling it aristocracy.

Barely outlined in this way the alternatives of monarchy aristocracy or oligarchy and democracy seem to raise issues only of expediency or efficiency rather than of justice. Whether oligarchy is intrinsically a good or bad form of government tends to become a question only when other factors are considered when for example the distinction between aristocracy and oligarchy is made to turn on whether the few are men of virtue or men of property or when in the comparison of oligarchy with democracy the emphasis is not upon numbers but upon the principles of wealth and liberty.

Nevertheless the numerical criterion does not seem to be totally irrelevant to the com-

parison. Oligarchy and democracy Aristotle writes are not sufficiently distinguished merely by these two characteristics of wealth and freedom. Though the real difference between democracy and oligarchy is poverty and wealth and though wherever men rule by reason of their wealth whether they be few or many that is an oligarchy. Aristotle does not seem to think we can neglect the political significance of what he calls the accidental fact that the rich everywhere are few and the poor numerous.

With regard to aristocracy and oligarchy the chief question does not seem to be one of principle but of fact. Plato in the *Republic* and Aristotle in the *Politics* define aristocracy as government by the few best men or the most virtuous. They also place it next to what is for them the ideal government by the supremely wise man—the rule of the philosopher king or what Aristotle calls the divine sort of government. In this context oligarchy represents a perversion of aristocracy as tyranny represents a corruption of monarchy.

Plato describes oligarchy as arising when riches and rich men are honored in the State and when the law fixes a sum of money as the qualification for citizenship and allows no one whose property falls below the amount fixed to have any share in the government. But according to Socrates wealth does not qualify men to rule as virtue and wisdom do.

Just think what would happen he says if pilots were to be chosen according to their property and a poor man were refused permission to steer even though he were a better pilot. To which Adeimantus agrees that in government as in navigation the probable result would be shipwreck.

But though there may be no question of the superiority of aristocracy over oligarchy in principle the critics of aristocracy question whether any historic state in which the few hold political power is not in fact an oligarchy. It may not always be the case that the power of the few rests directly on wealth. The privileged class may be a military clique or an hereditary nobility. Yet these distinctions are seldom unaccompanied by the control of land or other forms of wealth so that indirectly at least the oligarchical factor is thought to be operative.



THE CRITICISM OF aristocracies as masked oligarchies is discussed in the chapter on ARISTOCRACY. The critical point seems to be that nothing except superior virtue or talent justifies a political inequality between the few and the many. The meaning of oligarchy is generalized in consequence to include any government in which the special privileges or powers held by the few cannot be justified whether it is wealth or some other title to pre-eminence that is substituted for superiority in virtue or talent. When it is so understood the word oligarchical tends to become like tyrannical a term of reproach.

In describing different forms of democracy Aristotle observes that their common principle is to give a share in the government to all who meet whatever minimum qualification is set by law. The absolute exclusion of any class he says would be a step towards oligarchy. To the same effect is Mill's comment on the steps away from oligarchy accomplished by English constitutional reforms in the 19th century.

In times not long gone by Mill writes the higher and richer classes were in complete possession of the government. A vote given in opposition to those influences was almost sure to be a good vote for it was a vote against the monster evil the overruling influence of oligarchy. But now that the higher classes are no longer masters of the country now that the franchise has been extended to the middle classes a diminished form of oligarchy still remains. The electors themselves are becoming the oligarchy—in a population where many are still disfranchised. The present electors Mill continues, and the bulk of those whom any probable Reform Bill would add to the number are the middle class and have as much a class interest distinct from the working classes as landlords or great manufacturers. Were the suffrage extended to all skilled laborers, even those would or might still have a class interest distinct from the unskilled.

Oligarchy remains according to Mill so long as there is any unjustifiable discrimination among classes in the population. It is not in his view limited to discrimination based on the extremes of wealth and poverty as he plainly indicates by his remarks on the special interests of different parts of the working class or their relation

as a whole to the lower middle classes. He makes this even plainer by what he has to say on political discrimination as between the sexes. Suppose the suffrage to be extended to all men, he writes suppose that what was formerly called by the misapplied name of universal suffrage and now by the silly title of manhood suffrage became the law the voters would still have a class interest as distinguished from women.

The oligarchical defect in representative government which Mill is here criticizing seems to have little or no basis in economic class divisions. The exclusion of any class in the population from a voice in government renders that government oligarchical with respect to them. The excluded class may even be a minority. So conceived oligarchy no longer means the rule of either the rich or the few.

When the meaning of oligarchy is generalized in this way the discussion of oligarchy seems to presuppose the typically modern conception of democracy. As indicated in the chapter on DEMOCRACY the distinguishing feature of the modern democratic constitution is universal suffrage. By this criterion the conflict between the democrats and the oligarchs of the ancient world appears to be a conflict between two forms of the oligarchical constitution—one in which the wealthier few and one in which the poorer many have political rights, but in neither of which membership in the political community includes all normal adult human beings in the population.

Where ancient political theory could conceive of a mixed constitution—somehow combining oligarchical and democratic principles—the modern conception of democracy seems to make any compromise with oligarchy impossible. Certain modern writers notably Mosca, Michels and Pareto seem to insist on the contrary that oligarchy is present in all forms of government and is especially prevalent in representative democracies where the actual conduct of government—the effective power—is in the hands of a bureaucracy or an elite whether popularly chosen or self-appointed. But the contradiction may be more verbal than real if on one side the word oligarchy means some degree of restriction in the franchise or citizenship and on the other it applies to any situa-

tion in which the whole people are not directly active in all the affairs of government and consequently a small number of men administers the state. Understood in the latter sense the oligarchical principle does not seem to be in compatible with representative democracy. Those who use the word in this sense merely call attention to an inevitable characteristic of representative government. A representative democracy may also have an aristocratic aspect when it follows the principle that the men best qualified by virtue or talent for public office should be chosen by the suffrage of all their fellow citizens.

FULLER DISCUSSION of these aspects of oligarchy is found in the chapters on ARISTOCRACY and DEMOCRACY. Here we are primarily concerned with political issues which have their source in the opposition of economic classes in the state, primarily that extreme division of men into those who live by their labor and those who live on their property and the labor of others. It is in terms of this extreme division between men of leisure and working men that the conflict between oligarchy and democracy takes place in the ancient world.

At a time when citizenship meant a much more active and frequent participation in government than it does under the modern institutions of the ballot box and the representative assembly, the ancient defenders of oligarchy could argue that only men of wealth had the leisure requisite for citizenship. Oligarchy could be further defended on the ground that in many of the Greek city states public officials were either not compensated at all or at least not substantially. Only men of sizeable property could afford to hold public office.

Aristotle weighs the arguments for and against oligarchy. On the point of leisure, for example, he holds that nothing is more absolutely necessary than to provide that the highest class not only when in office but when out of office should have leisure. Yet even if you must have regard to wealth in order to secure leisure, it is surely a bad thing, he thinks, that the greatest offices, such as those of kings and generals, should be bought. The law which allows this abuse makes wealth of more account than virtue.

Aristotle seems to regard democratic and oligarchical claims as complementary half truths.

Both parties to the argument, he says, are speaking of a limited and partial justice but imagine themselves to be speaking of absolute justice. According to an adequate conception of political justice, it is as unjust to treat equals unequally as it is to treat unequals equally. The oligarch violates the first of these principles, the democrat the second. Democracy arises out of the notion that those who are equal in any respect are equal in all respects, because men are equally free, they claim to be absolutely equal. Oligarchy is based on the notion that those who are unequal in one respect are in all respects unequal, being unequal that is in property, they suppose themselves to be unequal absolutely.

Both forms of government have a kind of justice but tried by an absolute standard they are faulty and therefore both parties whenever their share in the government does not accord with their preconceived ideas stir up revolution. In oligarchies the masses make revolution under the idea that they are unjustly treated because they are equals and have not an equal share and in democracies the notables revolt because they are not equal and yet have only an equal share.

What can cure this situation in which perpetual revolution seems to be inevitable as democracy succeeds oligarchy or oligarchy democracy in the government of the Greek cities? Aristotle describes many forms of oligarchy and democracy but none seems to remove the cause of revolution. When in an attempt to preserve their position the wealthier families turn to the more extreme forms of oligarchical constitution that tendency eventually leads to a kind of despotic government which Aristotle calls *dynasty* or the lawless rule of powerful families.

To establish a stable government which shall be less subject to revolution in favor of a contrary principle of government and which shall resist the tendency toward lawless rule by either the masses or the powerful few, Aristotle proposes the mixed constitution which shall combine the elements of both democratic and oligarchical justice. But this will not work in actual practice, he thinks, unless the middle class

is large and strong or if possible than both the other classes.

Great then is the good fortune of a state in which the citizens have a moderate and sufficient property for where some possess much and the others nothing there may arise an extreme democracy or a pure oligarchy or a tyranny may grow out of either extreme.

These considerations will help us to understand why most governments are either democratical or oligarchical. The reason is that the middle class is seldom numerous in them and whichever party whether the rich or the common people transgresses the mean and predominates draws the constitution its own way and thus arises either oligarchy or democracy.

From the point of view which sees no justice in granting any special privileges to property Aristotle's position on oligarchy seems open to question. For one thing in admitting a partial justice in the principle that those who are unequal in wealth should be treated unequally in the distribution of political power Aristotle appears to affirm that the possessors of wealth deserve a special political status. For another thing in his own formulation of an ideal polity Aristotle advocates the exclusion of the working classes from citizenship. The citizens must not lead the life of mechanics or tradesmen for such a life is ignoble and inimical to virtue. Neither must they be husbandmen since leisure is necessary both for the development of virtue and the performance of political duties. All these classes of men are necessary for the existence of the state but they are to be no part of it in the sense of political membership. The best form of state will not admit them to citizenship though it will include as necessary the slaves who minister to the wants of individuals or mechanics and laborers who are the servants of the community.

Some of the great speeches in Thucydides' *Histories* which deal with domestic issues as well as the issues of war and peace eloquently argue the opposite side of the case. Debating with Hermocrates before the Syracuse assembly Athenagoras answers those who say that democracy is neither wise nor equitable but that the holders of property are the best fitted to rule. I say on the contrary first that the word *demos* or people includes the whole state oli-

garchy only a part next that if the best guardians of property are the rich and the best counsellors the wise none can hear and decide so well as the many and that all these things severally and collectively have their place in a democracy. But an oligarchy gives the many their share of the danger and not control with the largest part takes and keeps the whole of the profit.

IN MODERN POLITICAL thought the discussion of oligarchy seems to occur on two levels. There is a controversy on the level of constitutional principles with regard to suffrage and representation and the qualifications for public office. Here the issues concern the justice of the fundamental laws of republican or popular government. There is also a consideration of the way in which men of property or corporate concentrations of wealth are able to exert influence upon the actual course of government. Here the problem becomes, not so much the justice of the constitution or of the laws, but the weight which wealth seems able to throw into the scales of justice.

The great modern defense of the oligarchical constitution does not seem to be as plain or as forcefully made in any of the great books as in the speeches of Edmund Burke especially those in opposition to the suffrage reform measures proposed by Charles James Fox, wherein Burke argues for the principle of *virtual representation*. It is unnecessary he claims for the franchise to be extended to the working classes if their economic betterment—who also happen to be their superiors in talent and education—deliberate on what is for the common good of all.

The Federalists seem to take an opposite view. Reflecting on the system of British representation in their day they observe that for the eight millions of people in the kingdoms of England and Scotland the representatives in the House of Commons amount to five hundred and fifty-eight. But they go on, of this number one ninth are elected by three hundred and sixty-four persons and one half by five thousand seven hundred and twenty-three persons. It cannot be supposed they argue that the half thus elected and who do not reside among the people at large can add anything either to the security of the people

against the government or to the knowledge of their circumstances and interests in the legislative councils. On the contrary it is notorious that they are more frequently the representatives and instruments of the executive magistracy than the guardians and advocates of the popular rights. Nevertheless they do not condemn such an oligarchical system of representation as entirely inimical to the virtues of parliamentary government. It is very certain they declare not only that a valuable portion of freedom has been preserved under all these circumstances but that the defects in the British code are chargeable in a very small proportion on the ignorance of the legislature concerning the circumstances of the people.

Some of the American constitutionalists may be influenced by Burke's defense of oligarchy in terms of the virtues of an aristocracy but they state their own position in terms which are more plainly oligarchical. They argue for poll tax and property qualifications for public office on the ground that the country should be run by the people who own it. Furthermore those who are not economically independent are not in a position to exercise political liberty. Power over a man's subsistence Hamilton declares amounts to power over his will.

Facing the issue which had been raised on the floor of the constitutional convention Madison remarks that the most common and durable source of factions has been the various and unequal distribution of property. Those who hold and those who are without property have ever formed distinct interests in society. He proposes a representative—or what he calls a republican—system of government to avoid the excessive factionalism of the pure or direct democracies of Greek city states.

Theoretic politicians who have patronized this species of government Madison writes have erroneously supposed that by reducing mankind to perfect equality in their political rights they would at the same time be perfectly equalized and assimilated in their possessions their opinions and their passions. By a weighted system of representation the power of sheer numbers may be counter balanced by the power given to other factors thus preventing the accomplishment of the secret wishes of an unjust and interested majority.

A rage for paper money for an abolition of debts for an equal division of property or for any other improper or wicked project will be less apt to pervade the whole body of the Union than a particular member of it.

In another paper the Federalists answer the charge that the constitution is oligarchical because the House of Representatives will be taken from that class of citizens which will have least sympathy with the mass of the people and be most likely to aim at an ambitious sacrifice of the many to the aggrandizement of the few. This objection they say while leveled against a pretended oligarchy in principle strikes at the very root of republican government.

The method of election provided for by the Constitution aims to obtain for rulers men who possess most wisdom to discern and most virtue to pursue the common good of the society. Who are to be the electors of the federal representatives? Not the rich more than the poor not the learned more than the ignorant not the haughty heirs of distinguished names more than the humble sons of obscurity and unpropitious fortune. Who are to be the objects of popular choice? Every citizen whose merit may recommend him to the esteem and confidence of the country. No qualification of wealth of birth of religious faith or of civil profession is permitted to fetter the judgment or disappoint the inclination of the people.

Whether the American Constitution in its original formulation is an oligarchical document has long been a matter of dispute. Whether the Federalists favor devices for protecting the rights of property or repudiate oligarchical restrictions in favor of the rights of man has also been the subject of controversy. That this is so may indicate at least a certain ambiguity in their position. But on the question of the oligarchical influences on government—the political pressures exerted by propertied classes to serve their special interests—the opinion of the modern authors of the great books seems much clearer.

The most extreme statement of this opinion is of course to be found in the *Communist Manifesto*. There government in fact the state

self is regarded as an instrument which the economic oppressors wield against the oppressed. The final step in the bourgeois revolution according to Marx and Engels occurred when the bourgeoisie conquered for itself in the modern representative State exclusive political sway. In the bourgeois state legislation is nothing but the will of this one class made into a law for all. One aim of the communist revolution beyond the temporary dictatorship of the proletariat is the withering away of that historic formation of the state in which political power is merely the organized power of one class for oppressing another.

Though much less radical in intention than Marx, Smith and Mill make statements which seem to be no less radical in their criticism of the oligarchical influences on modern parliamentary government. It has been said. Smith observes that we rarely hear of combinations of masters though frequently of those of workmen. But whoever imagines upon this account that masters rarely combine is as ignorant of the world as of the subject. Masters are always and everywhere in a sort of tacit but constant and uniform combination not to raise

the wages of labor above their actual rate. Masters too sometimes enter into particular combinations to sink the wages of labor even below this rate. Furthermore the parties to the conflict do not have equal access to legislative protection. Whenever the legislature attempts to regulate the differences between masters and their workmen its counsellors are all ways the masters.

Almost a century later Mill writes in a similar vein concerning the persevering attempts so long made to keep down wages by law. Does Parliament he asks ever for an instant look at any question with the eyes of a working man? On the question of strikes for instance it is doubtful if there is so much as one among the leading members of either House who is not firmly convinced that the reason of the matter is unqualifiedly on the side of the masters and that the men's view of it is simply absurd. The remedy for this inequity according to Mill is not communism but constitutional reforms in the direction of universal suffrage which will no longer leave the working classes excluded from all direct participation in the government.

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To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Iliad* BK II [26, 283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAM. S. *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS** One or more of the main divisions of a work (such as PART BK CH SE) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* BK II [26, 283] 12d.

**BIBLE REFERENCES** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) II *Esd* as 7 46.

**SYMBOLS** The abbreviation sp calls the reader's attention to one or more especially relevant parts of a whole reference passim signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Id* as contained in the Preface.

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 Other discussions of capitalism and of the class war see DEMOCRACY 4a(2) LABOR 7c-7c(3) OPPOSITION 5b REVOLUTION 4a 5a-5c WAR AND PEACE 2c WEALTH 6a 9h

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the subject and topics with which this chapter deals. These works are divided into two groups:

- I Works by authors represented in this collection
- II Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

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## Chapter 63 ONE AND MANY

### INTRODUCTION

**I**N *Pragmatism* and in his unfinished last work *Some Problems of Philosophy* William James uses the problem of the one and the many as one of the crucial tests of the philosophical mind. In his famous table of doctrines or isms he aligns monism with rationalism and idealism in the column headed tender minded and in the other column headed tough minded he places their opposites—pluralism empiricism and materialism. But as his own theories show isms like monism and pluralism tend to oversimplify the issues.

Whoever emphasizes the oneness of the world for example may also acknowledge its manyness and recognize that it is somehow a pluri-verse as well as a universe. Some like Bradley may qualify this view by regarding the unity as ultimate reality the plurality as appearance or illusion. Whoever finds the multiplicity of things the primary fact may nevertheless find some unity in the order and connection of things. Some like James himself may insist that the connection is a loose concatenation of relatively independent parts of reality rather than an interpenetration of each part with every other in the solid whole which James calls the block universe.

There may be another oversimplification in James' consideration of the problem of the one and the many. He seems to be concerned largely if not exclusively with the alternatives of the block and the concatenated universe as conceptions of the structure of reality. But as some of the great books of antiquity make evident that is only one of the problems of the one and the many. Perhaps it should be said not that there are many problems of the one and the many but that there is one problem having many aspects or applications for in every statement of the problem there is at least the singleness of theme—that the one and the many are

opposed that the one is *not* a many and the many *not* a one. Yet even that does not seem to be quite accurate for as Socrates tells Protarchus in the *Philebus* it may also be said that the one is a many and the many a one. These are wonderful propositions he says wonderful because whoever affirms either is very open to attack.

At this early moment in the recorded tradition of western thought the dialogues of Plato so thorough in their exploration of the problems of the one and many make no claim to having discovered or invented them. They were ancient even then. They seem to hang in the very atmosphere of thought usually befogging those who try to see the truth about anything else without first clearing away their obscurities.

Socrates refers to the common and acknowledged paradoxes of the one and the many that everybody has by this time agreed to dismiss as childish and obvious and detrimental to the true course of thought. These aside some genuine perplexities remain. Protarchus asks Socrates to instruct him about those other marvels connected with this subject which as Socrates seems to have implied have not yet become common and acknowledged.

Socrates begins by calling his attention not to the unity of *this* man or *this* ox but to the sense in which it is said that man is one or ox is one or beauty one or the good one. It is necessary to ask he says first whether such unities exist then such unities being always the same and admitting neither generation nor destruction how each in itself alone is not only one but *this* one finally how these unities can be conceived as dispersed and multiplied in the world of things which come to be and pass away. This last question seems to be the most difficult because it asks about the *being* of the same and one as it *becomes* in the one and many.

Protarchus is impatient to begin cleaning up these problems. Willing to undertake what he calls this great and multifarious battle in which such various points are at issue, Socrates is also anxious to let Protarchus and the other youths know the intellectual perils which lie ahead for novices who enter upon this inquiry. The one and many he tells them become identified by thought. They run about to ether in and out of every word which is uttered. This union of them will never cease and is not now beginning but is an everlasting quality of thought itself which never grows old.

That is why he explains any young man when he first tastes these subtleties is delighted and fancies that he has found a treasure of wisdom in the first enthusiasm of his joy he leaves no stone, or rather no thought unturned now rolling up the many into the one and kneading them together now unfolding and dividing them he puzzles himself first and above all and then he proceeds to puzzle his neighbors whether they are older or younger or of his own age—that makes no difference neither father nor mother does he spare no human being who has ears is safe from him hardly even his dog and a barbarian would have no chance of escaping him if an interpreter could only be found.

Whether it is full of exasperating subtleties or is a treasure of true wisdom the discussion of the one and the many—in itself and in relation to being and becoming, the intelligible and the sensible, the definite and the infinite, the same and other, universals and particulars, wholes and parts, the simple and the complex, the indivisible and the continuous—is a discussion which seems unavailing to the ancients. In the dialogues of Plato and in Aristotle's treatises, especially his *Metaphysics*, the one and the many are connected with the basic terms of philosophical thought.

For Plato the distinction between the one and the many enters into the analysis of almost any object—such as pleasure or virtue or knowledge. Anything viewed under the aspect of its being or its becoming, its definite sameness or its indefinite otherness and variety must be discussed both as a one and as a many. The

motion of Plato's dialectic may be from the one to the many or from the many to the one or it may be on the level of the many as an intermediate stage through which analysis must go in proceeding from the infinite to the one. Those who pass at once from unity to infinity says Socrates do not recognize the difference between the mere art of disputation and true dialectic.

For Aristotle first philosophy or metaphysics is concerned as it is with being *qua* being and the attributes which belong to anything *qua* being also investigates unity. Unity is the first property of being. The meanings of one or unity are as various as the meanings of to be. If there is a difference between essential and accidental being, there is a parallel difference between essential and accidental unity. If natural and artificial things differ in substance or being, so too must they differ in unity. Being and unity are the same, Aristotle says, and are one thing in the sense that they are implied in one another as are principle and cause. Unity is nothing apart from being and nothing can be without being one in some sense of unity which is determined by the way in which the thing exists. Aristotle's analysis of any subject matter proceeding as it does by reference to contraries always appeals to the one and the many. All contraries he says are reducible to being and non-being, and to unity and plurality as for instance rest belongs to unity and movement to plurality. And everything else is evidently reducible to unity and plurality. For all things are either contraries or composed of contraries and unity and plurality are the principles of all contrariety.

THE PROBLEMS in whose analysis one and many seem to be involved recur in every period of western thought. The question for example whether there is an irreducible duality in the relation of knower and known or whether in the act of knowledge knower and known are one is discussed by Hobbes and William James as well as Plotinus and Aristotle. The question whether the state—which is a multitude somehow united for a common life—has or should have the same degree of unity as the family is discussed by Locke and Hegel as well as Plato and Aristotle.

The earlier controversy over the indivisibility of sovereignty becomes at a later stage the central issue of federal union to which *e pluribus unum* is the solution offered by the Federalists. Question concerning the simple and the complex or wholes and parts as objects of knowledge or questions concerning the unity and divisibility of time space or matter engage the attention of inquirers and analysts no less in modern than in ancient times.

But there are certain problems which are treated with unusual speculative vigor by the ancients alone. Unlike the problems just mentioned which deal with applications of the contrast between unity and multiplicity these are questions about the One itself—what it is whether it exists whether it is identical with Being whether it is itself a substance or the substance of all things.

The sustained inquiry into such matters in antiquity seems to testify to the extraordinary power exerted upon ancient thought by Parmenides of Elea. The person called the Eleatic Stranger represents his theones in such dialogues of Plato as the *Sophist* and the *Statesman*. Parmenides or his disciple Zeno is probably the source of many of the paradoxes and riddles which Socrates in the *Philebus* dismisses as no longer worthy of serious attention. One whole dialogue named *Parmenides* because of his part in the discussion exhibits the Eleatic demonstration that all is one. It abounds in the subtleties of the various arguments which try to defend the reality of the many or try to reduce that position to absurdity.

Questioned by Socrates concerning his paradoxes Zeno says that his writings were meant to protect the arguments of Parmenides against those who make fun of him and seek to show the many ridiculous and contradictory results which they suppose to follow from the affirmation of the one. When he addresses himself to the partisans of the many Zeno says that he returns their attack with interest by retorting upon them that their hypothesis of the being of many if carried out appears to be still more ridiculous than the hypothesis of the being of one.

Aristotle also deals with the Eleatic arguments. In the *Physics* he says first that inquire about whether being is one cannot contribute to the study of nature. He then adds that

such inquiry anyway would be like arguing against any other position maintained for the sake of argument or like refuting a merely contentious argument. This description he says applies to the arguments both of Melissus and Parmenides: their premises are false and their conclusions do not follow. Accept one ridiculous proposition and the rest follows—a simple enough proceeding. Aristotle's treatment of Parmenides and Zeno in the *Metaphysics* seems to be no more sympathetic though it tacitly admits the relevance of the Eleatic speculation to the study of being if not to the study of change and the principles of nature. Nevertheless many of the questions concerning the one and the many which both Plato and Aristotle deem worthy of discussion appear to have some connection with the perplexities propounded by Parmenides and his school.

Those who do not deny either the unity of being or its multiplicity tend to make the primary fact about reality either its oneness or its manyness. This may seem at first to be of little significance but if the two views of the world which result from this difference are examined it may be found that the disagreement on this single point changes the perspective on every thing else. The philosophers who magnify either the one or the many behold universes more radically dissimilar than the same object looked at from opposite ends of a telescope. But that is not all. Almost every other fundamental conception—of God and man of the mind and knowledge of matter and motion of cause and necessity—seems also to be altered.

Spinoza for example criticizes those who attribute to finite things of which there are necessarily many the properties which belong to the infinite being of which there can be only one. This man this stone or any comparable individual thing is not a substance having the power to exist in and of itself it consists merely of certain modifications of the attributes of God: the one infinite substance in which every thing else both is and is conceived. According to Spinoza those who suppose that the finite many are substances have not observed a proper order of philosophic study.

They begin with the object of sciences which have the least reality and come last to the de-

vine nature the infinite one which ought to be studied first because it is first in the order of knowledge and in the order of things. Hence it has come to pass. Spinoza continues that there was nothing of which men thought less than the divine nature while they have been studying natural objects and when they afterwards applied themselves to think about God there was nothing of which they could think less than those prior fictions upon which they had built their knowledge of natural things for these fictions could in no way help to the knowledge of the divine nature.

Starting with the definition of substance as that which exists in itself and is conceived through itself and with the definition of God as absolutely infinite being that is to say substance consisting of infinite attributes Spinoza undertakes to prove that there cannot be two or more substances having the same nature or attributes that substance is necessarily infinite and hence that it is impossible for more than one substance to exist. Since he regards it as axiomatic that everything which is is either in itself or in another it follows for Spinoza that if anything at all exists God (or substance) must necessarily exist—as that which alone exists in itself and as that in which everything else has its finite being as a mode or affection of the attributes of God.

Certain other consequences seem to follow. The one infinite substance is indivisible it is not a whole made up of parts which can have independent existence as the parts of a quantitative whole seem able to exist when the quantity is divided. Furthermore God according to Spinoza is the immanent and not the transitive cause of all things. God causes them not as one thing acting on another when both are independent in existence but rather as the being in which all things are. God is not present in the world as other theologians seem to think in the manner in which a cause exists in an effect that depends upon it. Rather the whole world is in God as an effect which can in no way be separated from the existence of the cause any more than an aspect can be separated from that of which it is an aspect.

For Spinoza the unity and totality of being can be called nature as well as infinite substance or God. His distinction between

*natura naturans* and *natura naturata* discussed in the chapter on NATURE seems to permit him to distinguish between the infinite or eternal and the finite or temporal—the one and the many—without implying a real separation between God and the world. Since God is immanent in the world and since God not only exists necessarily but also acts from the necessity of His own nature it follows (as is indicated in the chapter on NECESSITY AND CONTINGENCY) that every finite and temporal aspect of nature is necessarily determined. Nothing is contingent. Nothing could be otherwise than it is.

THIS EXAMINATION of a doctrine in which the primacy of the one absorbs as well as subordinates the many serves to exemplify the point that making the one primary is more than a matter of emphasis. It also shows that almost every fundamental question is affected. It presents a picture of what William James appears to mean when he speaks of the block universe though he himself usually seems to have in mind Hegel's Absolute rather than Spinoza's God.

Aristotle advances a contrary doctrine. Like Spinoza he uses the term substance. Like Spinoza he defines substance as that which exists in itself not as an accident (a quality for example) which exists in another e.g. the redness in the rose. But for him substance is not necessarily infinite, nor is it indivisible. A rose or a man is a substance. Every physical thing which has a natural unity is a substance.

Each is a finite whole or rather each is a whole in a number of different senses. Insofar as it has essential unity it is a whole composed of matter and form which according to Aristotle are represented in the formulation of a definition by the genus and the differentia. Insofar as it is composed of matter it also has the unity of a quantitative whole in virtue of which it moves as one thing or uniquely occupies a place. Since quantitative unity involves continuity and continuity entails divisibility a substance remains one only so long as it is not divided into its quantitative parts just as it remains one essentially only so long as its matter and form are not separated.

A substance is individual not because it is absolutely indivisible—as for Lucretius the atom

is because it is simple rather than composite. Its individuality rather consists first in its being divided from other substances in such a way that it can perish without necessarily destroy ing them or they can perish without destroy ing it and second in the fact that though divisible into parts it is one whole when these parts remain undivided. Yet as one substance it has more unity than a mere collection of things.

The difference between a man and a machine according to Aristotle's differentiation between the unity of natural substances and of artificial things is that a man is not composed of substances (though the parts of a living organism may come to exist as substances when it is decomposed or they are separated from it) whereas a machine made up of separate pieces of metal is nothing but a number of individual substances arranged in a certain way. The unity of man does not appear to be the same therefore when soul and body are conceived by Descartes as two substances and by Aristotle not as distinct substances but as form and matter which through their union constitute a single substance.

Unity in short belongs essentially to the individual natural substance. Because each individual substance is necessarily a one among a many Aristotle unlike Spinoza cannot affirm the unity of substance without also affirming a plurality of substances. Not itself a substance but only an aggregation of substances the world is primarily a many rather than a one. The unity it possesses derives from the order and connection of the substances which are its component parts and that in turn largely derives from the way in which distinct substances causally interact.

Since according to Aristotle causality includes contingency and chance the causal interdependence of substances with respect to their generation and their motions does not lock them to ether into a solid block. To use James' imagery again a vast plurality of individual substances causally yet also contingently related constitutes a loosely knit world a concatenated universe.

THE RELATION OF the world as a whole to God does give it greater unity if the supposition of a plurality of finite individual substances re-

mains the fundamental feature of the world God creates. The Christian doctrine of creation may attribute to the world a greater unity than that possessed by any work of human art in proportion as the infinitely greater wisdom of the divine plan orders the separate things of nature with an infinitely greater perfection than man can achieve in putting things together or in ordering them to his purpose. But if according to the theologian God in creating the world creates not one substance but many substances forming a single whole through the pattern of their connection with one another then in a sense the world has less unity than each of its component substances.

For Aquinas one kind of substance may have greater unity than another. The immaterial has more than the material and God more than any finite substance since each of these is composed of matter and form or essence and accidents or at least of essence and existence whereas the infinite being of God is absolutely simple. The divine nature is without matter without accidents its attributes are identical with its essence and its essence with its existence.

This cardinal point about the divine nature is crucial to the conception of God and of the world's relation to God. In the formation of Christian theology God's absolute simplicity seems to exclude all but one resolution of the issue concerning the Trinity. According to the position Augustine takes in criticizing the Arian heresy the position which is expressed in the Nicene Creed God is not a trinity of substances but a trinity of persons—aspects of or relations within one substance. The plurality of things which constitutes the world puts the world entirely outside the divine substance. Immanent only as a cause the simple being of God transcends the complex whole of the created world.

This transcendence seems furthermore to imply for theologians like Augustine and Anselm a fundamental duality in the realm of existence. God and the world are truly not one. Infinite being is absolutely prior to and independent of finite beings. The one can exist without the many. Though the many are said to participate in being when they do exist they do not enter into the being of the one or share it in any way.

The being they have is not only separate from the being of God but even their mode of being is only analogical to the divine being.

The doctrine that each thing has its own being and that as Aquinas says being is common to all things only in an analogical sense seems to put diversity above unity in the structure of reality and to leave the ultimate plurality of this world unaffected either by the fact that it was created as one or by the fact of its relation to a transcendent One.

IN THE TRADITION of the great books the problem of the one and the many is often stated without using the notion of substance as the pivotal term.

It appears in Plato's consideration of being and becoming. It is sometimes present in his treatment of the relation between intelligible forms and sensible things—between the universal ideas and the particulars which resemble them through some manner of imitation or participation. It even runs through the discussion of the realm of ideas itself for the idea of the one is one idea among many and yet each of the many ideas is in some way one.

The problem of the one and the many appears in Hume's consideration of the absolute distinctness of each unit of experience from every other accompanied as it is by his skepticism concerning our ability to discover any connections which might tie these units together into a real unity. It appears in Kant's theory of the transcendental unity of apperception which reduces the sensory manifold to a unity of order and in Hegel's theory of the one Absolute Idea which contains within itself all the variety that becomes manifest as the Idea unfolds in the processes of nature or history.

The substitution of one set of terms for another does not seem to alter the fundamental issue. Nor does it enable the mind to escape taking sides with those who give primacy to the one or to the many except perhaps by trying to balance them as correlates. Among the great books however the *Enneads* of Plotinus develops a theory of the One which putting it above being and beyond knowing seems to transfigure all the traditional terms of analysis.

The One of Parmenides is after all Being and this identification of Being with One raises

a question of the reality of the many. But according to Plotinus there exists a Principle which transcends Being this is The One whose nature we have sought to establish so far as such matters lend themselves to proof. Upon The One follows immediately the Principle which is at once Being and the Intellectual Principle. Third comes the Principle Soul. These are what Plotinus calls the three hypotases. He finds some analogy for his trinity in a doctrine he ascribes to Plato's *Parmenides* in which he finds a threefold distinction between the primal One a strictly pure Unity and a secondary One which is a One Many and a third which is a One and Many.

The One according to Plotinus not only transcends being it also transcends intelligence. Knowing or thinking requires an object. The relation of knower and known entails a duality which would fracture the utter simplicity of The One. Even the complete reflexivity of The One knowing only itself is excluded. The superessential is for Plotinus also the supra-cognitive.

What stands above Being stands above intellection he says. It is no weakness in it not to know itself since as pure unity it contains nothing which it needs to explore. Multiplicity begins with the effort of the Intellectual Principle to know the Transcendent. It knows the Transcendent in its very essence but with all its efforts to grasp that prior as pure unity it goes forth amassing successive impressions so that to it the object becomes multiple. The Intellectual Principle is established in multiplicity.

What is the All of which The One is not all since the Intellectual Principle and the Soul also belong to it? Plotinus answers that The One is all things and no one of them. The source of all things is not all things. It is precisely because there is nothing within the One that all things are from it. Everything else in the totality of which the Transcendent is the source emanates from it.

Seeking nothing possessing nothing lacking nothing Plotinus declares. The One is perfect and in our metaphor has overflowed and its exuberance has produced the new. This product has turned again to its begetter and has filled and has become its contemplator and so an Intellectual Principle. It is simulta-



neously Intellectual Principle and Being and attaining resemblance in virtue of this vision it repeats the act of the One in pouring forth a vast power. This second outflow is a Form or Idea representing the Divine Intellect as the Divine Intellect represented its own prior. The One. This active power sprung from essences (from the Intellectual Principle considered as Being) is Soul. Soul arises as the idea and act of the motionless Intellectual Principle. It takes fullness by looking toward its source but it generates its image by adopting another a downward movement. This image of Soul is Sense and Nature the vegetal principle.

Nothing writes Plotinus is completely severed from its prior. Thus the human Soul appears to reach as far down as to the vegetal order. In these successive emanations all that is not One is conserved by virtue of the One and from the One derives its characteristic nature. Everything except the One is a one many.

If it had not attained such unity as is consistent with being made up of multiplicity we could not affirm its existence. The Transcendent alone is a really existent One wholly and truly One while its sequent poured down in some way from the One is all a total which has participation in unity and whose every member is similarly all and one.

If reason cannot fully grasp the Transcendent One that may be because discursive reason is

itself a thing of multiplicity. The unity of an all-embracing vision may be required to apprehend the ineffable unity of the Transcendent. But the mysteriousness of unity is not confined to the Transcendent One. It confronts the mathematician as well as the philosopher. It challenges Nicomachus and Euclid as well as Plotinus.

Unity writes Nicomachus occupying the place and character of a point will be the beginning of intervals and numbers but is not itself an interval or a number. What then is unity or a unit in itself? Euclid answers with this definition. A unit is that by virtue of which each of the things that exist is called one. Unity is not only the measure of existence but also of numbers for according to Euclid a number is a multitude composed of units. In mathematics no less than in metaphysics or in theology the relation of unity to number seems to be the heart of the problem of the one and the many.

Number according to Locke applies itself to men angels actions thoughts every thing that either does exist or can be imagined. Unity or one is in his view not only the simplest of all our ideas but the most omnipresent.

Every object our senses are employed about every idea in our understandings every thought of our minds brings this idea along with it. And therefore it is in its agreement to all other things *the most universal idea we have*

## OUTLINE OF TOPICS

- 1 The transcendental one the Absolute the unity of being of nature of the universe
  - 1a The relation of the one and the many emanation of the many from the one
  - 1b The unity or duality of God and the world the immanence and transcendence of God
  - 1c The one and the many in relation to the universal and the particular the abstract and the concrete universal
- 2 The modes of unity comparison of numerical essential and divine unity
  - 2a Numerical unity or identity the number one
  - 2b The unity of the indivisible or the simple the individual thing the point the atom the quality
  - 2c The complex unity of a whole composed of parts the distinction between the indivisible and the undivided

## 3 Kinds of wholes or complex unities

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## 3a Quantitative wholes oneness in matter or motion

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(1) *The continuity of a quantitative whole*(2) *The unity and divisibility of a motion*(3) *The unity and divisibility of matter*(4) *The unity and divisibility of time and space*

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## 3b Natural or essential wholes the oneness of a being or a nature

(1) *The distinction between essential and accidental unity*(2) *The comparison of the unity of natural things with man made compositions or aggregations artificial wholes*(3) *The unity of a substance and of substantial form*(4) *The unity of man as composite of body and soul matter and spirit extension and thought*

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(5) *The unity of the human person or the self the order of man's powers the split personality*

## 4 Unity in the realm of mind unity in thought or knowledge

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4a *The unity of mind or intellect the cognitive faculties or consciousness*4b *The unity of sense experience the unity of attention the transcendental unity of apperception*4c *Unity in thinking or understanding the unity of complex ideas and definitions the unity of the term the judgment and the syllogism*4d *The unity of science the unity of particular sciences*

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4e *The one and the many or the simple and the complex as objects of knowledge the order of learning with respect to wholes and parts*4f *The unity of knower and known or of subject and object*

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## 5 Unity in moral and political matters

5a *The unity of virtue and the many virtues*5b *The unity of the last end the plurality of intermediate ends or means*5c *The unity of subjective will and objective morality in the ethical realm*5d *The unity of the family and the unity of the state the limits of political or social unification*5e *The unity of sovereignty its divisibility or indivisibility the problem of federal union*

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## 6 Unity in the supernatural order

6a *The unity and simplicity of God*6b *The unity of the Trinity*6c *The unity of the Incarnation*

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5 C IOL and COROL 365b PRO 8 365c  
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- 35 BERKELEY *Human Knowledge* SECT 13 415c
- 36 KANT *Pure Reason* 43d-44a 44c 45b / *Judge-  
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- 7 P ATO *Republic* BK V 370d 373c K VII  
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- 8 A ISTOTLE *Physcs* BK I CH 8 [9 4 12]  
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- 17 PLOTYUS *First En d* TR VI C I 2 26c d /  
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- 31 SPINOZA *Ethics* PART I 355 372d esp D  
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- 46 HE EL *Philosophy of History* INTRO 165a b  
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- 9 ARISTOTLE *Motion of Anm ls* CH 3 [699 11]  
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- 18 AUGUSTINE *Co fess o s* BK I par 2 3 1b 2a  
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- 19 AQUIN *Summa Th olog a* PART I Q 3  
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- 20 AQUIN *Summa Th olog a* RT II II Q  
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- 23 HO *s Lex athan* ART I 162b
- 31 DE CARTES *Disc urse* PART V 54d 56a /  
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- 31 SPINOZA *Ethics* A T I 355a 372d esp D  
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- 35 B K LEY *Human A uledg* SECT 149-  
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- (1) *The transcendental one the Absolute the unity of being, of nature of the universe* 1b *The unity or duality of God and the world the immanence and transcendence of God*)
- 42 KANT *Pure Reason* 192c d / *Practical Reason* 342c 351b 352c / *Judgement* 550a 551a c 564c 565d esp 563c d 566c d 580c d 592a c
- 46 H GEL *Philosophy of History* INTRO 156d 157b 176b ■ PART I 220c 221a 224a b 227d 228c 237d 238 245d 246c
- 48 MELVILLE *Moby Dick* 115b-117a
- 51 TOLSTOY *War and Peace* bk v 216d 218b bk xiv 608a ■ bk xv 631 c
- 52 DOSTOEVSKY *Brothers Karamazov* bk vi 153b-d
- 1c *The one and the many in relation to the universal and the particular the abstract and the concrete universal*
- 7 PLATO *Laches* 32a 33a / *Meno* 174d 175d / *Euthyphro* 193a c / *Republic* bk vi 383d 388a bk vii 392a 394a / *Parmenides* 486d 489a / *Theaetetus* 514b-515d / *Sophist* 559a c / *Philebus* 610d 613a
- 8 ARISTOTLE *Categorics* ch 2 [1<sup>a</sup>20-39] 5b-c / *Prior Analytics* bk i ch ii [77<sup>a</sup>5 9] 105d 106a ch 24 [85 31 33] 116c [85<sup>a</sup>15-21] 117a / *Heavens* bk i ch 9 [277<sup>a</sup>26-278<sup>b</sup>9] 369a d / *Metaphysics* bk i ch 6 505b 506b ch 7 [988 34-35] 506c bk iii ch 4 [1001 8 36] 520a b bk v ch 3 [1014<sup>b</sup>3 13] 534d ch 6 [1016<sup>b</sup>17-1017 3] 537b c ch 25 [1023<sup>b</sup>17 19] 545b c ch 25 [1 3<sup>a</sup>22]-ch 26 [1023<sup>b</sup>32] 545c bk vii ch 10 [1034<sup>b</sup>35 1036<sup>a</sup>25] 558b-559d ch 15 563c 564c bk x ch i 578b d 580a esp [1052 28-37] 578d ch 2 580b d bk xii ch 8 [1074 32-39] 604d bk xiii ch 10 618c 619a c
- 17 PLOTINUS *Fourth Ennead* tr ix ch 5 206d 207a c
- 19 AQUINAS *Summa Theologiae* part i q 3 a 2 rep 3 15c 16 q ii a 3 an 49a c q 13 a 9 an and rep 71b 72c q 14 a 6 ans 80a 81c q 30 a 3 ans and rep 169b-170c a 4 170c 171b ■ 47 a 2 ans 257b 258c q 77 a i rep i 399c 401b q 79 a 5 rep 2 418c-419b q 93 a 9 ans 500c 501c part i-ii q i a i rep 3 662d 663d q 17 a 4 an 688d 689c
- 20 AQUINAS *Summa Theologiae* part i q 2 a i ans 710a 711c
- 21 HO B *Leviathan* part i 55b-c
- 28 HARVEY *On Animal Generation* 332a 333b
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- 35 LOCKE *Human Understanding* bk i ch xi s ct 9 145b-c ch xxxii sect 6 244b c ■ ch iii ch i s ct 3 251d 252a ch iii s ct i 9 254d 256c passim ■ vi sect i 268b sect 3 33 277c 278c
- 35 BERKELEY *Human Knowledge* intro sect

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- 35 HUME *Human Understanding* sect xii div 125 507b [in i]
- 42 KANT *Pure Reason* 197b 198a 211c ■
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- 53 JAMES *Psychology* 308a 311a passim
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- 8 ARISTOTLE *Physics* bk i ch 2 [185<sup>b</sup>5 186 4] 260b d / *Metaphysics* bk i ch 5 [986<sup>b</sup>8-987<sup>a</sup>1] 504c 505a bk v ch 6 536a 537c bk x ch i 578b d 580a / *Soul* bk ii ch i [412<sup>b</sup>8-9] 642c ch 4 [415<sup>a</sup>22 8] 645c d
- 17 PLOTINUS *Fourth Ennead* tr ix ch 2 205c-206a ch 5 206d 207a c
- 19 AQUINAS *Summa Theologiae* part i q ii 46d 50b esp a 4 49d 50b ■ 30 a i rep 24 167a 168a a 2 rep 5 168a 169b q 93 a i rep 3 492a d part i ii q 17 a 4 a 5 688d 689c
- 20 AQUINAS *Summa Theologiae* part iii q 2 709d 723a esp a 9 719d 720c q 17 806d 809d
- 31 DESCARTES *Objections and Replies* 224d 185d
- 31 SPINOZA *Ethics* part ii def 7 373c
- 53 JAMES *Psychology* 215b-216a
- 2a *Numerical unity or identity the numbers*
- 7 PLATO *Republic* bk vii 392b-394b / *Theaetetus* 535b c 537a-c
- 8 ARISTOTLE *Categorics* ch 5 [4 10-19] 8b 9a / *Topics* bk i ch 18 [108<sup>a</sup>23 32] 153a c bk vi ch 4 [141<sup>b</sup>6-8] 194d / *Physics* bk i ch 14 [223<sup>a</sup>12 224 14] 303c 304 c bk vii ch i [242 31 34] 326c d / *Metaphysics* bk iii ch 4 [1001<sup>a</sup>25-25] 520a ■ bk v ch 6 [1016<sup>b</sup>18-1017<sup>a</sup>1] 537b c ch ii [1018 4-9] 538d ch 13 [1020 8-9] 541b bk x ch i 578b d 580a ch 3 [1054 30-35] 581a ch 6 [1056<sup>b</sup>33 1057 16] 581b c bk xi ch 7 [1072 33 34] 602b ch 8 [1074 31-39] 604d bk xiii ch 6-9 611d 618c bk xiv ch i [1087<sup>b</sup>34 1088 14] 620a b
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- 11 NICOMACHUS *Arithmetic* bk i 814c 821d bk ii 832b 838c d 839d 840a
- 17 PLOTINUS *Fourth Ennead* tr ix ch 2 205c-206a ch 5 206d 207a c / *Fifth Ennead* tr v ch 4 230b-d / *Sixth Ennead* tr ii ch 9-11 273c 275d tr vi 310d 321b esp ch 5 312c 313b ch ii-16 315d 319d tr ix ch i 2 353d 355a
- 19 AQUINAS *Summa Theologiae* part i q 3 a 5 ans and r 2 17c 18b q 7 a 4 ans 33d 34c q 10 a 6 45c 46d q 11 a i rep 1 246d 47d a 2 an 47d 48d a 3 rep 2 49a c a

- 4 REP 2 49d 50b Q 30 A 1 REP 4 167a 168a  
A 2 REP 5 168a 169b A 3 169b 170c Q 85  
A 8 REP 2 460b 461b PART I II Q 10 A 1  
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- 20 AQUINAS *Summa Theologica* PART III Q 2  
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- 7 PLATO *Republic* BK V 392b-394b / *Par  
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- 9 ARISTOTLE *Ethics* BK X CH 4 [174<sup>b</sup> 9-14]  
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- 11 EUCLID *Elements* BK I DEFINITIONS 1 1a
- 11 NICOMACHUS *Arithmetica* BK II 832b
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- 20 AQUINAS *Summa Theologica* PART I I Q
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- 31 DESCARTES *Rules* XI 20d 21b
- 31 SPINOZA *Ethics* II AT I PROP 12 15 359b  
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- 34 NEWTON *Optics* BK III 541b
- 35 LOCKE *Human Understanding* G BK II CH II  
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- 35 BERKELEY *Human Knowledge* INTRO SECT  
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- 42 KANT *Pure Reason* 120c 129c esp 121a 124d  
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- 2c The complex unity of a whole composed of  
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- 7 PLATO *Parmenides* 495c-497c 505c 506b /  
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- 8 ARISTOTLE *Topics* BK VI CH 13 [150<sup>a</sup> 1]-CH  
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- 9 ARISTOTLE *Ethics* BK X CH 4 [174 13 14]  
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- 17 PLOTINUS *Fourth Ennead* TR III CH 2 142a  
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- 19 AQUINAS *Summa Theologica* PART I Q 6  
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- 28 GALILEO Two New Sciences FIRST DAY  
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- 34 NEWTON *Principles* K II RULE III 270b  
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- 35 BERKELEY *Human Knowledge* SECT 12 13  
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- 46 H OEL *Philosophy of Right* ADDITIONS 168  
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- 53 JAMES *Psychology* 104a 106b
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- 8 ARISTOTLE *Metaphysics* BK V CH 6 536a  
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- 20 AQUINAS *Summa Theologiae* PART III Q 2  
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- 31 DESCARTES *Objections and Replies* 224d  
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- 42 KANT *Pure Reason* 161d 163a

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- 8 ARISTOTLE *Categories* CH 6 [3<sup>20</sup>-5 37] 9a d  
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- 9 ARISTOTLE *Ethics* BK X CH 4 [1174 13 14]  
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- 17 PLOTINUS *Fourth Ennead* TR II CH 1 139d
- 19 AQUINAS *Summa Theologiae* PART I Q 8  
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- 31 DESCARTES *Objections and Replies* 114d 115a
- 31 SPINOZA *Ethics* PART I PROP 15 SCHOL 360b  
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- 42 KANT *Pure Reason* 129c 159d esp 130b 133c  
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- 20 AQUINAS *Summa Theologiae* PART III Q 2  
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- 28 GILLESPIE *Two New Sciences* FIRST DAY 139c  
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- 31 SPINOZA *Ethics* PART I PROP 15 SCHOL 360b-  
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- 34 NEWTON *Principles* BK I LEMMA 1 25a  
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- 42 KANT *Pure Reason* 69c 72c 161d 163

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- 8 ARISTOTLE *Physics* BK IV CH II [319 10-13]  
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352a / *Metaphysics* BK V CH 6 [1016<sup>b</sup> 5]  
536c CH 13 [1020<sup>a</sup>25 33] 541c BK X CH 1  
[1052 18 21] 578b BK XII CH 6 [1071<sup>b</sup>11]  
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- 9 ARISTOTLE *Ethics* BK X CH 4 [1174 13 14]  
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- 17 PLOTINUS *Third Ennead* TR VII CH 8-9  
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- 19 AQUINAS *Summa Theologiae* PART I Q 7  
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- 28 GILLESPIE *Two New Sciences* THIRD DAY  
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- 30 BARBON *Notum Organum* BK II APR 6  
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- 33 PASCAL *Geometrical Demonstration* 434a  
439b passim
- 34 NEWTON *Principles* BK I LEMMA II SCHOL  
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- 42 KANT *Pure Reason* 26b 27a 74b-76c 130b-  
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- 51 TOLSTOY *War and Peace* BK VI 469 d

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- 7 PLATO *Timaeus* 456a-457b
- 8 ARISTOTLE *Physics* K III CH 6-7 284b-  
286c K VI CH 4 316d 318a / *Heavens* BK IV  
CH 6 [313<sup>b</sup>6- 2] 405a = / *Generation and Cor-  
ruption* BK I C 1 2 [315<sup>a</sup>25 317 17] 411b-  
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[327<sup>b</sup> 1-CH 10 [328<sup>b</sup> 5] 426a-428d / *Meta-  
physics* BK VI CH 13 [1039<sup>a</sup> 1] 562d CH 16  
[104 1<sup>b</sup> 16] 564c BK X CH 1 [1053<sup>a</sup>21 24]  
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- 10 GALILEO *Natural Philosophy* BK I CH 12 173d  
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- 12 LUTHERUS *Antirethorica* K I [483-634]  
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- 17 PLOTINUS *Second Ennead* TR V CH 7 52c /  
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- 19 AQUINAS *Summa Theologiae* PART I Q 3  
A 1 ANS 14b 15b Q 7 A 3 R 3-4 32c 33  
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Q 30 A 3 ANS 169b 170c Q 58 A 2 ANS

- 47 A 3 REP 2 3 258c 259a Q 50 A 2 ANS  
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- 20 AQUIN *Summa Theologica* PART III Q 2  
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- 28 G LIL O *Two New Sciences* FIRST DAY 139c  
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- 30 BACON *Novum Organum* BK II APH 8 140b
- 31 DESCARTES *Object ions a d Repl es* 112b
- 34 NEW ON *Optics* BK III 541b
- 35 LOCKE *Human Understand ng* BK II CH  
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CH XXIX SECT 16 237b d BK IV CH X  
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- 35 BERKELEY *Human Knowledge* SECT 47  
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- 42 KANT P *Reason* 100 d 131c 137a 140c  
152 d 161d 163a
- 43 FED ALIST NUMBER 31 103d
- 45 FAR DAY *Res arches i Electricity* 850b d  
855a,c
- 3 (4) The un ty and d v s bility of t me and  
sp ce
- 7 P ATO *Timaeus* 450c-451 456a 457b
- 8 AR S OTLE *Cat g ies* CH 6 [5<sup>a</sup>-29] 9b c /  
*Phy* BK IV CH II [219 10 13] 298d 299a  
BK VI 312b d 325d passim / *General on a d*  
*Corrupt* BK I CH I [337<sup>a</sup> 22 34] 439b c /  
*M t phy ies* BK V C I 13 [1 2 25 34] 541c /  
*S ul* K III CH 6 [330<sup>b</sup> 6-19] 663a b
- 17 PLOTINUS *Tl i d Ennead* TR VII CH 8 3  
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- 18 A GU TIN *Confess ons* BK XI PAR 17 41  
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- 19 AQUINAS *Summa Theologica* PART I Q 7  
A 3 REP 4 32c 33c A 4 REP 33d 34c
- 28 G LILLO *Two New Sc nces* THIRD DAY  
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- 31 D M RTES *Discourse* PART IV 52d 53a /  
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- 33 PASCAL *Geometrical Demonstrat on* 434a  
439b pa im
- 35 LOCKE *H ma U derstand ng* BK II CH X II  
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- 35 B KELEY *Human Knowl dge* SECT 98 432a
- 42 KANT *Pur Reason* 24a 26b 130b 133c  
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- 43 J A E *Py hology* 398a 399b 420 b 54 a  
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- 8 A I TOTLE *Met phys* BK V CH 6 536  
537c K X CH I 578b d 580a
- 10 G L V *Natu l Facult* K II CH 6 189a  
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- 19 AQUIN S *Summa Th al gic* PART Q 8  
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A 4 RE 3 49d 50b Q 3 A 9 ANS 71b 72  
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- 31 DESCARTES *Objections a d Repl es* 152d  
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- 35 LOCKE *Human Understand ng* BK III CH VI  
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- 35 BERKELEY *Human Knowl dge* SECT I  
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- 3b(1) The dist nction between essent al and  
accidental unity
- 8 A I TOTLE *Posterior Analytics* BK II CH 10  
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- 9 ARISTOTLE *Pol tics* BK VII CH 8 [132<sup>s</sup> 21 4]  
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- 10 AQUINAS *Summa Theologica* PART I Q 0  
A 6 ANS 45-46d Q II A 1 REP 2 46d-47d  
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603b-604b PART I II Q 17 A 4 ANS 688d  
689c Q 28 A 1 REP 2 740b-741a
- 20 AQUIN S *Summa Theologica* PART III Q 2  
A 1 ANS 710a 711c A 6 716b 718b Q 3 A 1  
R P 2 723b 724a Q 17 A 4 ANS 808d 809d  
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- 35 LOCKE *Human Understand ng* BK III CH VI  
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- 3b(2) The comp son of the un ty of natural  
things with man m de compositions or  
aggregations artificial wholes
- 8 ARIS OTLE *Metaphys* BK V CH 6 [1 15<sup>b</sup> 35-  
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- 19 AQUINAS *Summa Theologica* PART I Q 17  
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- 20 AOU N S *Summa Theologica* PART I Q 2  
A 1 AN 710a 711c ART I UP Q 79 A 2  
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- 42 KANT *Judgem nt* 557a 558b
- 3b(3) Th nity of ub t nce and of substan  
t l fo m
- 8 ARISTOTLE *Physica* BK I H 3 [ 86<sup>b</sup> 14 19]  
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- 10 G LEN NA *I F c h* K I 1 172d  
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- 19 AQUINA *Summa Th l g a p RT I* Q 3 AA  
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(3b) *Natural or essential wholes the oneness of a being or a nature 3b(3) The unity of a substance and of substantial forms*

- 31d 32c Q 11 A 1 REP 1 2 46d 47d A 4 REP 3 49d 50b Q 16 A 7 REP 2 99a d Q 29 A 2 R P 5 163b 164b Q 50 A 2 ANS 270a 272a Q 70 A 3 365b 367a Q 6 A 3 4 391a 394c A 8 ANS 397d 399b Q 85 A 4 ANS and REP 2 457a d Q 119 1 ANS 604c 607b P T 11 Q 17 A 4 ANS 688d 689c
- 20 AQUINAS *Summa Theologica* P RT III Q 2 A 1 ANS and R 2 710a 711c Q 3 A 1 REP 1 728a 729a M 17 806d 809d PART III SUPPL. Q 79 A 1 ANS and REP 4 951b-953b A 2 REP 1 2 4 953b 955c
- 31 DESCARTES *Objections and Replies* 152d 155d
- 31 S NO A *Ethics* P RT I DEF 3 355b PROP 5 10 356b-358b PROP 12 15 359b 361d
- 35 LOCKE *Human Understanding* BK II CH XXIII SECT 1-6 204a 205c SECT 37 213d 214b CH XXV I SECT 2 7 219b-221a BK III CH VI 8 CT 1 10 268b 271b possum esp SECT 4 268d 269b SECT 1 271b SECT 21 273c d SECT 42 280b c SECT 49 282 BL IV CH 7 SECT 42 334b 335b
- 42 K NT *Pure Reason* 15b c 63 63d 64a 74b 76c 81b 83b 91d 93b 95a d 131c d 137 140c 162b 163a / *Judgement* 556d 558a 559b d 565b d 575c 576a

3b(4) *The unity of man as composite of body and soul matter and spirit extension and thought*

- 7 PLATO *Cratylus* 93b d / *Phaedrus* 124b d / *Plato* 231b-234 / *Republic* BK II 338a 339 / *Timaeus* 453b c / *Laus* BK V 686d 687
- 8 ARISTOTLE *Metaphysics* X VII CH 10 [1035<sup>b</sup> 3 32] 559a b BK V II C 13 [1043 9-14] 567d CH 6 569d 570d BK XII C 1 [1075<sup>b</sup> 34-35] 606d / *Soul* BK I CH I [403<sup>a</sup> 2 9] 632a d CH 5 [410<sup>a</sup> 10-6] 640c [4 1<sup>b</sup> 5 18] 641 d A II CH I 2 642a 644c
- 9 A TOTL *Politics* K I CH 5 [254 33 37] 448a
- 12 LU RBT U *Letter f The* BK III [94 176] 31b-32b [370-395] 34d 35a
- 12 E CRETUS *Discourses* BK I CH 3 108b c BK V H 240d 242d
- 12 AU EL US *Mediation* BK IV ECT 21 265b c BK VII ECT 5 283b c BK IV S CT 8 292b K K C 3 310a b
- 17 PLOTINUS *First Ennead* d TR I 1a 6b / *Second Ennead* d TR C 15 37c / *Fourth Ennead* d TR I CH 19-3 151d 154b T VII H 191 d CH 8 197 198b / *Sixth Ennead* d TR II CH 4-8 323c 3 5
- III AUGUSTIN *City of God* BK V H I 216c BK IV CH 8 17 289d 295c pass m BK V CH 29 316d 318b BK XIII 1 16 367a d CH 19 369c 370c K XI CH 2 3 377a 378d CH 5 379c 380b

- 19 AQUINAS *Summa Theologica* PART I Q 8 1 RFI 34d 35c A 2 REP 1 2 35c 36b Q 5 2 REP 1 2 379c 380c A 4 381b-382a Q 6 385c 399b M 118-Q 119 A 1 600a 607b P RT II Q 4 A 5 REP 2 632c 634b Q 17 A 4 A 5 and REP 3 688d 689c
- 20 AQUINAS *Summa Theologica* PART III Q 2 A 1 ANS and REP 2 710a 711c A 5 715a 716b A 6 ANS and REP 2 716b 718b Q 3 A 7 REP 1 728a 729a Q 17 A 2 ANS and REP 2 803d 809d PART III SUPPL. Q 79 AA 1 2 951b 9 5c Q 80 AA 1 2 956c 958b QQ 82-83 963a 992a
- 21 DANTE *Divine Comedy* PURGATORY XT [34 78] 91d 92a
- 25 MONTAIGNE *Essays* 294c 295a 311a b 432b d 540a 543a M
- 30 BACON *Idolment of Learning* 48d 49c
- 31 DESCARTES *Discourse* PART V 51d 52 P RT V 60b c / *Meditations* M 77d 81d VI 98c 99a 99d 100a / *Objections a d Replies* 119d 120 DEF VI VII 130 d DEF V 130d PROP 1 133c 135d 136b 152d 155d 170b c 207d 208a 209c 224d 225d 231a 232d 248b 276b c
- 31 SPINOZA *Ethics* PART II PROP II 13 377b-378c PART III PROP 2 396c 398b P RT V PROP 451a-452c
- 33 PASCAL *Pensées* 512 262a
- 35 LOCKE *Human Understanding* g BK I CH III SECT 4 113b c BK II CH XVII SECT 6-8 220c 222a esp SECT 8 221d 222a SECT 13 224b c SECT 21 225d 226a SECT 27 29 227d 228 BK IV CH III SECT 6 313c 315b passim
- 35 HUME *Human Understanding* SECT I DIV 52 472c 473c
- 36 STERNE *Tristram Shandy* 229b-230 270b 277a b
- 37 FIELDING *Tom Jones* 198a-c
- 42 KANT *Judgement* 557c 558b
- 46 HEGEL *Philosophy of Right* PART I par 47 48 24a M ADDITIONS 2 115d
- 53 JAM E *Psychology* 1a-4 esp 2b 3a 4a 84a 93b esp 88a 90b 116a 119b esp 118b 119b 130a 139a 140a 208 b 222b 223a
- 54 FREUD *Interpretation of Dreams* 154 155a

3b(5) *The unity of the human person or the self the order of man's powers the spiritual personality*

- N W TESTAMENT *Romans* M 12 14 7-8 13 3 14
- 7 PLATO *Symposium* 165d 166b / *Goias* 2 0d 271b / *Republic* BK IV 346a 355a c p 350b 355 / *Timaeus* A 453b 454a 474b d 476a b
- M ARI TO E *Soul* BK III CH 6-11 662d 667a
- 12 EPICURUS *Discourse* BK I C 1 3 4 108b-110a CH 12 118d 120b BK I I CH 24 203c 210a
- 12 AURELIUS *Meditations* BK I SECT 1 253 BK V ECT 36 273d BK VI SECT 13 280c SECT 55 283b-c A V II SECT 1 285 b BK IX SE T 9 292b d
- 17 PLOTINUS *Fourth Ennead* TR IV CH 18 166d 167b

- 18 AUGUSTINE *Confessions* BK VIII par 10 11  
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- 19 AQUINAS *Summa Theologica* PART I Q 77  
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- 20 AQUINAS *Summa Theologica* PART II Q 77  
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808d 809d Q 19 A 1 REP 4 816a 818b PART  
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- 21 DANTE *Divine Comedy* PURGATORY IV [1 18]  
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- 22 MONTAIGNE *Essays* 105c 107a 159a 162c  
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- 23 BACON *Advancement of Learning* 72b
- 24 D SCARLES *Meditation* 1 v 89a 93a
- 25 LOCKE *Human Understanding* BK II CH I  
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227d
- 26 GIBSON *De Imaginatione et Fallacis* 150c
- 27 KANT *Pure Reason* 49c 51d esp 51c d 120c  
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- 28 ■ TH *Faust* PART I [1064-1117] 26b 28a  
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- 29 TOLSTOY *War and Peace* BK XII 554b  
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- 30 JAMES *Psychology* 1a b 130 139a passim  
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259b esp 192a b 205a 206 213a 219a  
222a b 225a 258a
- 31 FREUD *Origins of Development of Psycho-  
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and *Liberalism* 767d 768d / *Narcissism*  
830 840a esp ■ 0d 832a  
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- 32 Unity in the realm of mind, unity in thought  
■ knowledge
- 33 The unity of mind or intellect the cognitive  
faculty so conscious
- 34 ARISTOTLE *Soul* BK I CH 3 [407<sup>3</sup>]  
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[431 0-1] 663d 661a CH 8 [43 1 4] 664 d  
17 PLOTINUS *Fourth Ennead* TR III CH 3 143b-c
- 35 AQUINAS *Summa Theologica* PART I Q 76  
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A 1 ANS 469a-471c
- 36 AQUINAS *Summa Theologica* PART I II Q 50  
A 4 ANS 9a 10b
- 37 KANT *Pure Reason* 49c 51d esp 51c d 55a  
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esp 121a 124d 126a 128b 185b c 193a 200c  
esp 193d 194b 194d 195a 199a-c 200c 204c /  
*Practical Reason* 329a d / *Judgement* 463a  
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- 38 H. EL. *Philosophy of Right* PART III par  
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losophy of History* INTRO 175c 177b
- 39 JAMES *Psychology* 1a b 154a 157b esp 156a  
159b 161a esp 160a 161a
- 40 The unity of sense experience the unity of  
attention on the transcendental unity of  
apperception
- 41 PLATO *Theaetetus* 534d 535b
- 42 ARISTOTLE *Posterior Analytics* BK II CH 19  
[99<sup>3</sup> 36-1 0 14] 136b / *Metaphysics* BK I CH  
I [980<sup>2</sup> 25-93<sup>1</sup> 1] 499b / *Soul* BK II CH II  
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1] 663d 664a / *Sense and the Sensible* CH 7  
685c 689a
- 43 PLOTINUS *Fourth Ennead* TR III CH 3 143b-c
- 44 AQUINAS *Summa Theologica* PART I Q 1 A 3  
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- 45 AQUINAS *Summa Theologica* PART I II Q 77  
A 1 ANS 145d d PART III SUPPL Q 82 A 3  
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- 46 DANTE *Divine Comedy* PURGATORY IV [1 18]  
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- 47 B. AK. BY *Human Knowledge* SECT 99 432b
- 48 KANT *Pure Reason* 48d 59b esp 49 51d
- 49 M. VILLE *Moby Dick* 244b 245
- 50 JAMES *Psychology* 232b 238b esp 232b 234b  
237a 238a 261a 269a 315b-318b passim esp  
318 b 469a-471a 502b 503b 570a 572b esp  
572a
- 4c Unity in thinking or understanding the  
unity of complex ideas and distinct on  
the unity of the term the judgment and  
the syllogism
- 51 PLATO *Lysis* 3 a 33a / *Meno* 174a 179b /  
*Theaetetus* 51 b 515d 534d 536a 545b  
547b / *Sophist* 559 ■
- 52 ARISTOTLE *Citizens* CH 5 [2 9-33] 6b  
[3 6-9] 7b d / *Interpretation* CH 5 26b-c  
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ctatus* K I CH 18 [108 7-37] 152b d K V C 3  
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[5 1] ■ 4 [5 3] 204 20 ANS 11 3

- (4) *Unity in the realm of mind unity in thought or knowl dge* 4c *Unity in think ng or under stand ng the un ty of compl x ideas and defin t ons the unity of the term the judg ment and the syllog sm*)

[153 6-22] 208a b [154 3 11] 209b CH 4 [154 15 18] 209c / *Sophist cal Refut t ons* CH 7 [169<sup>53</sup>-6] 233b / *Metaphysics* BK IV CH 7 [1012<sup>22</sup> 24] 532b BK V C 1 3 [1014 35<sup>h3</sup>] 534c BK VII CH 4-6 552b 555a CH 10-12 558a 562a CH 17 565a 566a c BK VIII CH 2 [1043 2 28] 567c d CH 3 [1043<sup>h2</sup> 33] 568b CH 6 569d 570d BK V CH 1 [1052 4 37] 578d / *Soul* BK I CH 1 [4 2<sup>h</sup> 9] 631c d BK II CH 3 [414<sup>h20</sup>-32] 644d 645a BK III CH 6 662d 663c C 1 8 [432 9-10] 664c

- 9 ARISTOTLE *Parts of Animals* BK I CH 3 166a 167d esp [643<sup>h10</sup>-35] 167a c

- 19 AQUINAS *Summa Theol g ca* PART I Q 58 A 2 301b d Q 85 A 4 437a d A 8 460b 461b

- 30 BACON *Ad ceme t f Le ni g* 59c d

- 35 LOCK *Human Understa d g* BK III CH X SECT 1 147b d SECT 5 8 148d d passim CH XVI SECT 1 165 d CH XXII SECT 4 201c d CH XXIV 214b d BK I C 263d 268a passim esp SECT 4 264b SECT 10-11 266b d CH VI S CT 28 33 276a 278c passim esp SECT 32 278a b CH VI SECT 18 304a b

- 36 BERKELEY *Hum n Knowledge* SECT 1 413a b

- 42 KANT *Pu e Reason* 43d 44a 44c-45b 45d 46a 49c 51d esp 51c d 107b 110d 112a 133c 193a 200c esp 195b d 197b 198a 234c / *Practical Reaso* 329a d / *Jud em t* 550a 551a

- 46 HEGEL *Philosophy of I t r y* PART I 220c

- 53 JESSE *Pry hology* 178a 184a c p 178b 179a 180a 213b-214a 820b 821a

- 4d *The unity of science the un ty of part cular sciences*

- 7 PLATO *Charmid s* 10b 11 / *Symposium* 167a d / *Republic* K III 333b d BK II 397c 398

- 8 ARISTOTLE *Posterior Analytics* BK I CH 7 103c d CH 9 104b d CH 11 [7, 26 32] 106b CH 28 119c CH 32 120c 121b / *Top c* K II CH 3 [1016-28] 155c / *Sophist cal Ref at ons* CH 9 [1, 10<sup>h</sup>-23] 234b c / *Metaphysics* BK I CH 1 [995<sup>h</sup> 4 26] 513d 514b CH 2 [996 18 997 34] 514d 516 BK IV CH 1 3 522a 525a K VI C 1 547b d 548c BK XI CH 1 4 587a 590a CH 7 8 592b 593d

- 17 PLOTINUS *Th d En d* TRIX CH 2 137a / *Fourth E ad* TRIX CH 2 143 TRIX C 15 206d 207a c

- 19 AQUINAS *Summ Th ol gica* PART I Q 1 A 3 4c 5a

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## Chapter 64 OPINION

### INTRODUCTION

THE noble Houyhnhnms are paragons of reason. They have no conceptions or ideas of what is evil in a rational nature. Their grand maxim according to Swift their creator is to cultivate reason and to be wholly governed by it. Neither is reason among them a point problematical as with us where men can argue with plausibility on both sides of the question but strikes you with immediate conviction as it needs must do where it is not mingled obscured or discolored by passion and interest.

What Captain Gulliver finds most striking in the contrast between men and this noble race of horses is that the perfect rationality of the Houyhnhnms lifts them entirely above the vagaries and vicissitudes of opinion. I remember it was with extreme difficulty he says that I could bring my master to understand the meaning of the word opinion or how a point could be disputable because reason taught us to affirm or deny only where we are certain and beyond our knowledge we cannot do either. So that controversies wrangling disputes and positiveness in false and dubious propositions are evils unknown among the Houyhnhnms.

Among men it is not the meaning of opinion but of knowledge which causes trouble. If men had no conception of knowledge at all as the Houyhnhnms seem to have no conception of opinion they would find themselves disagreeing about many matters of opinion but probably not about the nature of opinion itself. The great controversies concerning opinion in the tradition of western thought all relate to its distinction from knowledge both with regard to the difference in their respective objects and with regard to the way in which the mind works when it knows and when it opines.

Only when something better than opinion is proposed as attainable do the characteristics of opinion come to be questioned. That something may stand in relation to opinion as certainty to probability as fact to conjecture as adequate to inadequate knowledge as demonstration to persuasion. The chief source of disagreement about the nature of opinion seems to be the meaning of the other term in the comparison. Yet a few commonly recognized features of knowledge—if that is taken as the contrasting term—throw some light on the characteristics of opinion. Certain things which are never said about knowledge seem to be generally said of opinion.

AN OPINION it is said may be either true or false. But knowledge is never said to be false. For a great many writers though not for all doubt and belief are attitudes of mind which accompany the holding of opinion but not the possession of knowledge. It is possible to opine and doubt at the same time but not to know and doubt. Belief overcomes doubt with respect to opinion but in those matters in which the mind is convinced of the truth of its judgments an act of belief does not seem to be necessary.

In the sense in which belief implies a willingness to assent where assent might reasonably be withheld belief seems to be appropriate to opinion but incompatible with knowledge. The opposite of an opinion may be reasonably maintained whereas the opposite of that which is known must be error or falsehood and therefore untenable. The traditional distinction between axioms and postulates (or assumptions) exemplifies this difference between knowledge and opinion. If a proposition is axiomatic its contrary must be false. But if something is proposed as an assumption to be taken for granted



then its opposite can also be postulated and probably will be postulated by those who are unwilling to grant what has been proposed.

This last point in the comparison of knowledge and opinion appears to have political significance. It is not merely that men are accustomed to expect more disagreement in the sphere of politics than in science: they take a different attitude toward scientific and political controversy, largely because one is supposed to occur in the domain of knowledge and the other in the realm of opinion. Men speak of having a right to their own opinions, which includes a right to persist in them despite the conflicting opinions of others. The notion of a right to a certain obstinacy in differing from one's fellow men seems to follow from the nature of opinion and to accord with its distinction from knowledge. With regard to matters concerning which it is supposed that knowledge rather than opinion is possible, disagreement may of course occur, but never without the expectation that reasonable men should be able to reach agreement on the disputed point by re-examining the facts.

The differences between men which we appeal to a consensus to resolve are differences of opinion, not knowledge. Sometimes conflicts of opinion cannot be settled in any other manner, and for practical purposes it may be necessary to accept the opinion of the majority. The theory of majority rule raises many questions on which the great books take opposite views, but for the most part they restrict the application of the theory to matters of opinion. Disputed issues in mathematics or other theoretic sciences are seldom, if ever, settled by counting heads. The weight of numbers seems to be peculiarly relevant to measuring the worth of conflicting opinions.

The traditional consideration of opinion naturally divides therefore into two major lines of discussion. The first deals with the theoretical problem of the difference between knowledge and opinion, and involves such related terms as doubt, belief, faith, certitude, and probability. The second assumes that distinction for the most part, and deals with the problems of decision and responsibility in the sphere of opinion—the problem of liberty of conscience, of freedom of thought and expression

of majorities and minorities, and of individual judgment in difficult cases of conscience.

THE DISTINCTION between knowledge and opinion is sometimes made in terms of a difference in their objects, and sometimes in terms of a difference in the way the mind works when it knows and when it opines. These two modes of differentiation may of course supplement one another—the object of opinion being such that the mind must operate in a certain way with respect to it. The same authors usually treat the matter both ways. But not all the great books in which these things are discussed use the words knowledge and opinion to signify the basic opposition.

Locke for example says that the mind has two faculties conversant about truth and falsehood: first knowledge, whereby it certainly perceives and is undoubtedly satisfied of the agreement or disagreement of any ideas; secondly judgment, which is the putting ideas together or separating them from one another in the mind, when their certain agreement or disagreement is not perceived but presumed to be so. To the faculty of judgment belongs belief, assent, or opinion, which is the admitting or receiving of any proposition for true upon arguments or proofs that are found to persuade us to receive it as true, without certain knowledge that it is so.

As demonstration is to persuasion as certainty is to probability, so for Locke knowing or perceiving stands to judging or presuming. Others, like Hume, tend to use the term belief in the place of opinion as the opposite of knowledge, or like Spinoza to assign opinion along with imagination to the domain of inadequate as opposed to adequate knowledge. But such differences in vocabulary do not seem to obscure the fact that these authors are making distinctions which, if not identical, are at least analogous.

A certain parallelism or analogy exists between different statements of the objects of knowledge and opinion. The knowable seems to have the properties of necessity and immutability, of universality, clarity, and distinctness. That which is contingent and variable, or confused and obscure, is usually regarded as the object of opinion.

Plato for example says that that which is apprehended by intelligence and reason always is and has no becoming whereas that which is conceived by opinion with the help of sensation and without reason is always in a process of becoming and perishing and never really is. As understanding and reason divide the realm of knowledge whose object is the immutable being of the intelligible forms so fancy and perception divide the realm of opinion whose objects are the sensible things which come to be and perish.

According to Aristotle the object of science is the essential and the necessary the object of opinion the accidental and the contingent. To whatever extent sensible particulars involve contingent accidents of all sorts they belong to opinion while the intelligible essences of things universal in the sense of being common to many individuals belong to science. The parallel which so far seems to be present between Plato's and Aristotle's statements of the objects of knowledge and opinion does not continue when we consider the consequences of their analyses.

For Aristotle it is possible to have scientific knowledge as well as probable opinion about the changing things of the physical world to the extent that these things are both intelligible and sensible and have aspects both of necessity and contingency. But for Plato the realm of becoming belongs exclusively to opinion as the quite separate realm of being belongs exclusively to knowledge. In consequence Aristotle's enumeration of the sciences includes physics along with mathematics and theology whereas the study of the physical world does not yield a science according to Plato but only as he says in the *Timaeus* a likely story—a plausible composition of probable opinions.

At first glance Hume seems to provide a closer parallel to Plato. All the objects of human reason or enquiry may naturally be divided into two kinds he writes *relations of ideas* and *matters of fact*. Objects of the first sort are capable of demonstratively certain knowledge e.g. the mathematical sciences. Matters of fact which include questions concerning the real existence of anything or the causal connection of one thing with another do not permit demonstration. They are objects of belief or opinion.

It would seem therefore that Hume like Plato regards the objects of knowledge and opinion or science and belief as belonging to altogether distinct realms. They even seem to agree that physics cannot be classified as a science though the probabilities it establishes may be quite sufficient for action. But this agreement must be qualified by the fact that the realm of ideas is for Plato the reality which changing things image while for Hume ideas have no reality at all. They exist only in the mind which obtains them from the impressions of sense-experience.

A parallel between Hume and Aristotle might also be drawn at least insofar as both connect opinion with the contingent—that which can be otherwise. If the opposite of a proposition is not impossible or does not lead to self contradiction then the proposition and its contrary are matters of opinion. This criterion in Aristotle's terms excludes all self-evident and demonstrable propositions. Such propositions for both Hume and Aristotle express knowledge not opinion. Yet Aristotle unlike Hume does not seem to think that the real existence even of immaterial beings is indemonstrable or that no necessary connections can be discovered between cause and effect.

THESE EXAMPLES might be extended to include similar observations concerning Locke Spinoza Kant James—in fact almost every writer who distinguishes between knowledge and opinion by reference to characteristically different objects. In the tradition of western thought the major controversies concerning the objects of knowledge and opinion occur with regard to the kind of being or reality assigned to each type of object and in consequence with regard to applications of the distinction. One writer treats as knowledge what another by apparently the same criterion calls opinion. The term opinion gets its skeptical impact from this circumstance. The skeptic never denies that men can form opinions about a given subject; he denies that the topic can be a matter of certain or unquestionable knowledge.

Skepticism approaches its limit when it is maintained that everything is a matter of opinion. At the furthest extreme it is sometimes said that nothing is either true or false though

Aristotle and others argue that such skepticism is self-destructive since the proposition nothing is true or false is inconsequential if it is false and self-contradictory if it is true. But the proposition everything is a matter of opinion can itself be an opinion and its opposite an opinion also.

The position which Montaigne takes in the *Apology for Raymond de Sebonde* is not the provisional skepticism of universal doubt in order to discover the foundations of certain knowledge. It is rather a resolute skepticism which reduces all human judgments to the status of equally tenable opinions and gives man no hope that he will ever be able to do better than adopt opinions on insufficient grounds or else suspend judgment entirely. No axioms according to Montaigne have ever won the universal consent of mankind: no demonstrations have ever escaped the need to assume their initial premises. Unless men beg the question in this way they cannot avoid an infinite regress in reasoning. There is no proposition about which men have not disagreed or changed their minds. Illusions and hallucinations suggest the pervasive unreliability of the senses; errors of judgment and reasoning suggest the radical infirmity of the mind.

How variously do we judge of things? Montaigne asks. How often do we alter our opinions? What I hold and believe today he continues, I hold and believe with my whole belief. I could not embrace nor preserve any truth with greater assurance than I do this, but has it not befallen me, not only once but a thousand times and every day, to have embraced some other thing with the same instruments and in the same condition which I have since judged to be false? A man must at least become wise at his own expense: if I have often found myself betrayed under this color, if my touch prove ordinarily false and my balance unequal, if unjust what assurance can I now have more than at other times? We ought to remember that whatever we receive into the understanding we often receive things that are false and that it is by the same instruments that so often give themselves the lie and are so often deceived.

MONTAIGNE EXEMPTS religious faith from the uncertainty of all beliefs or opinions which man

arrives at through the unaided efforts of his senses and his reason. Though we must accompany our faith with all the reason we have, we must do so always with this reservation: not to fancy that it is upon us that it depends, so that our arguments and endeavors can arrive at so supernatural and divine a knowledge. Faith is distinguished from ordinary belief according to Montaigne only if it enter into us by an extraordinary infusion.

What is an article of faith to one man may however be merely a matter of opinion to another. This seems to be generally recognized by all who differentiate religious faith from secular belief. The difference lies not in the object but in the causes of belief.

Those who distinguish between knowledge and opinion also admit that a difference in the way the mind judges is able to produce either knowledge or opinion concerning the same object. It is impossible according to Aristotle for the same mind with regard to the same object to know and opine at the same time. A given individual for example cannot hold a proposition of geometry to be true both as a matter of knowledge and of opinion. But this does not prevent the individual who once held the proposition to be true merely on the authority of his teacher—and thus as a matter of opinion—from subsequently learning the reasons for its truth and thus coming to know what formerly he merely opined. Two individuals may likewise assert the same truth in different ways: the one as knowledge, the other as opinion.

The traditional account of the difference in the activity of the mind when it knows and when it opines appears to involve two related points. The point which both Plato and Aristotle emphasize is that the man who knows does not merely assert something to be true but has adequate reasons for doing so. The truth of right opinion is no less true than the truth of knowledge. It differs as the discussion in Plato's *Meno* and *Theaetetus* seems to show, in that the man of right opinion cannot explain why what he asserts is true. He cannot give the causes of its truth or trace its connections with other truths which help to demonstrate it. The fact that an opinion is true does not prevent its being overturned or given up since without adequate reasons it is insecure against attack. Un-

supported by reasons opinion is not only unstable as compared with knowledge but it is also unteachable in the sense in which knowledge can be learned and taught. The man of right opinion unable to explain satisfactorily why he thinks as he does cannot help others understand the rightness of his opinions.

The other characterization of the mind's activity in forming opinions seems to follow from the preceding observation. If reasons do not determine the mind to think *this* rather than *that* what is the cause of its judgment? If the mind is not compelled by the object under consideration to think of it in a certain way what does move the mind in its act of assent or dissent to that which is proposed? To such questions the traditional answer seems to be wish or desire whether an act of free choice on the part of the will or an inclination determined by the divin power of the emotions.

Pascal makes this point when he observes that there are two ways in which men come to think as they do. The more natural way is that of the understanding for one should only agree to demonstrated truths but the more usual is that of the will for all men are nearly always led to believe not by proof but by inclination. Hobbes similarly differentiates knowledge which rests upon definitions and demonstrations from the opinion or beliefs which the mind adopts not as the result of reasoning but by an act of will.

The assent of reason is not according to Aquinas subject to command by the will in respect to all matters on which the reason can judge. If that which the reason apprehends is such that it naturally assents thereto e.g. first principles it is not in our power to assent to it or to dissent. For in such cases he holds as assent follows naturally and consequently properly speaking is not subject to our command. But some things which are apprehended do not convince the intellect to such an extent as not to leave it free to assent or dissent or at least suspend its assent or dissent for some cause or other and in such things assent or dissent is in our power and is subject to our command. Knowledge it would seem consists in those judgments wherein the mind is moved to assent solely by the matter being considered whereas all matters about which we are free to make up

our minds one way or the other are matters of opinion.

Though they vary in the terms of their analyses Descartes Locke and Hume seem also to agree that when the mind is moved to assent by the relations it perceives between ideas especially when these are clear and distinct it knows beyond doubt or the possibility of error. But when the mind lacking such intuitive or rational grounds nevertheless forms a judgment concerning what is not evident then the result is opinion entertained as merely probable accompanied by doubt and subject to error.

For Descartes the will freely exercised moves the mind to such fallible judgments. Except when it is so moved the mind responding to its object alone is naturally infallible. For Hume the mind is free to imagine whatever it pleases but its beliefs are determined by a sentiment or feeling of instinctive origin which depends not on the will nor can be commanded at pleasure. The issue between those who connect opinion with free will and those who deny that beliefs are voluntarily formed is discussed in the chapter on WILL. It does not seem to affect the fairly general agreement on the point that opinion is an act of the mind caused by *something other than the object itself* which the mind is considering.

DOES THIS DISTINCTION between knowledge and opinion exhaustively divide all the acts of the mind? As we have seen Montaigne appears to reject both alternatives and substitutes instead supernatural faith and ordinary belief. Aquinas on the other hand accepts knowledge and opinion as exhaustive on the plane of the mind's natural operations and makes religious faith a supernatural alternative to both.

He calls faith a mean or intermediate between science and opinion because he conceives it as having some of the characteristics of each. To believe he says is an act of the intellect as sending to the truth at the command of the will. In this faith resembles opinion. The act of faith is due to the will rather than to the rational evidence of the object. Faith is the evidence of things unseen. But faith also resembles science because the affirmations of faith have the certitude or freedom from doubt

which characterizes knowledge. According to Aquinas faith has greater certitude than natural knowledge since as intellectual virtues—science, wisdom and understanding—are based upon the natural light of reason which falls short of the certitude of God's word on which faith is founded. Faith differs from knowledge in that the object of faith exceeds the intellect's comprehension. That is why faith requires an act of the will to move the intellect to assent, but whereas ordinary opinions are adopted by a man's own volition, Aquinas attributes faith to God. Faith, he writes, as regards the assent which is the chief act of faith is from God moving man inwardly by grace.

Just as skepticism with respect to science takes the form of reducing all human judgments to opinion, so skepticism with respect to religion takes the form of attributing all belief to purely natural causes. If Freud is correct that all beliefs are the product of wishful thinking, then it is difficult to separate religion from superstition or prejudice—or even perhaps to separate science from religion.

James finds the will to believe in science as well as religion. Like Freud, he explains belief in terms of emotion and desire. Will and Belief, meaning a certain relation between objects and the Self, he writes, are two names for one and the same *psychological* phenomenon. Except for those necessary truths which concern only ideal relationships, the mind in thinking about reality is free to choose between alternative theories in the sphere of science as well as in religion. To believe is to attribute reality to a theory. Though the operation of the will to believe is not for James entirely independent of objective criteria, neither is it mainly determined thereby.

That theory will be most generally believed, he says, which besides offering us objects able to account for our sensible experience, also offers those which are most interesting, those which appeal most urgently to our aesthetic, emotional and active needs. So-called scientific conceptions of the universe have so far gratified the purely intellectual interests more than the mere sentimental conceptions have. But they leave the emotional and active interests cold. *The perfect object of belief would be a God or Soul of the World repre-*

*ented both optimistically and moralistically (if such a combination could be) and a ideal so definitely conceived as to show us why our phenomenal experiences should be sent to us by Him in just the very way in which they come.*

OPINION RAISES moral and political as well as psychological issues of liberty. One of them is the problem of freedom of discussion. This problem has aspects which belong to other chapters—freedom in scientific inquiry to SCIENCE, freedom in artistic or poetic expression to ART and POETRY, freedom of conscience and worship to RELIGION, freedom in teaching in EDUCATION, and the general issue of freedom of thought and speech to the chapter on LIBERTY. Yet what is common to all these related questions seems to be determined by the nature of opinion, particularly in its distinction from knowledge.

None of the books which argue for freedom of expression—Milton's *Areopagitica*, Locke's *Letter Concerning Toleration*, or Mill's essay *On Liberty*—defends the right to disseminate error or falsehood *knowingly*. All of them argue that the individual who claims the right to be heard is morally bound by the duty to speak the truth as it appears to him. Nor do those like Plato and Hobbes, who recommend political censorship, seek thereby to fortify the state by suppressing truth. In saying that the sovereign should judge of what opinions and doctrines are averse and what conducing to peace, Hobbes observes that, though in matters of doctrine nothing ought to be regarded but the truth, yet this is not repugnant to regulating the same by peace. For doctrine repugnant to peace can no more be true than peace and concord can be against the law of nature.

Since knowledge as distinct from opinion has the character of incontrovertible truth, the issue of freedom or censorship cannot be stated in terms of knowledge. But what some men hold to be knowledge others regard as opinion. The issue of free expression applies therefore to the entire range of human thought on the supposition that *no* proposition or doctrine is exempt from controversy and no human judgment secure from contradiction. This supposition does not abolish the distinction between knowledge and opinion, nor does it flout the law of

contradiction by treating opposite answers to the same question as in fact equally true

If all mankind minus one were of one opinion and only one person were of the contrary opinion mankind according to Mill would be no more justified in silencing that one person than he if he had the power would be justified in silencing mankind The peculiar evil of silencing the expression of an opinion is that it is robbing the human race posterity as well as the existing generation those who dissent from the opinion still more than those who hold it If the opinion is right they are deprived of the opportunity of exchanging error for truth if wrong they lose what is almost as great a benefit the clearer perception and livelier impression of truth produced by its collision with error

Mill advances four distinct reasons for recognizing the necessity to the mental well being of mankind (on which all their other well being depend) of freedom of opinion and freedom of the expression of opinion First if any opinion is compelled to silence that opinion may for aught we can certainly know be true To deny this is to assume our own infallibility Secondly though the silenced opinion be an error it may and very commonly does contain a portion of truth and it is only by the collision of adverse opinions that the remainder of the truth has any chance of being supplied Thirdly even if the received opinion be not only true but the whole truth unless it is suffered to be and actually is vigorously and earnestly contested it will by most of those who receive it be held in the manner of a prejudice with little comprehension or feeling of its rational grounds And not only this but fourthly the meaning of the doctrine itself will be in danger of being lost or enfeebled

The aim is not to perpetuate controversy nor is it to keep all doctrines perpetually on the level of debatable opinion As mankind improve Mill writes the number of doctrines which are no longer disputed or doubted will be constantly on the increase and the well being of mankind may almost be measured by the number and gravity of the truths which have reached the point of being uncontested The cessation on one question after another of

serious controversy is one of the necessary incidents of the consolidation of opinion a consolidation as salutary in the case of true opinions as it is dangerous and noxious when the opinions are erroneous

As Mill argues the case for freedom of thought and discussion it appears to be based on the hypothesis that the public debate of all matters, carried on without any restriction except those minimum restraints needed to prevent violence serves the end of separating true from false opinion and by the clarification of opinion as well as the correction of error discovering the reasons which turn opinion into knowledge It is not to multiply opinions but to advance knowledge not to encourage skepticism but to invigorate the search for truth that Mill advocates the submission of all matters to open dispute so long as any disagreement remains

His fundamental principle like that of Locke consists in divorcing political from logical criteria Logically the disputants may stand opposed to each other as one who knows and one who merely opines or as one who holds a true and one a false opinion or even as one who enjoys God's gift of supernatural faith and one who lacks such light but considered politically the opponents represent a conflict of opinion with each party equally deserving the benefit of the doubt that it may have the truth on its side If the state were to intervene it would be deciding a disputed question not by reason but by force in an area to which force is inapplicable

The business of laws Locke writes is not to provide for the truth of opinions but for the safety and security of the commonwealth and for every particular man's goods and person And so it ought to be For the truth certainly would do well enough if she were once left to shift for herself She is not taught by laws nor has she any need of force to procure her entrance into the minds of men Errors indeed prevail by the assistance of foreign and borrowed succours But if Truth makes not her way into the understanding by her own light she will be but the weaker for any borrowed force violence can add to her

Those who argue that state censorship is justified whether the matters whose debate is prohibited are speculative or practical moral

political or theological appear to extend the safeguarding of the common good beyond security from immediate peril of violence or to proceed upon the hypothesis of sufficient wisdom in the rulers to discriminate unerringly between truth and falsehood. Those who distinguish between church and state with regard to censorship tend to limit the application of ecclesiastical authority to questions of faith and morals on which the church is supposed to have supernatural guidance in deciding what is true or sound.

THE PRINCIPLE OF majority rule in matters of opinion seems to be opposite to the principle that the voice of a minority should be heard. To settle a difference of opinion by taking a vote gives a decisive weight to numbers which it may be thought is as illegitimate as resolving a debate by force. But when it is necessary to legislate or to act debate must be terminated and issues resolved.

On speculative questions which may be answerable by knowledge rather than by opinion and with respect to which agreement may be possible the end of truth seems to be served by permitting discussion to go on as long as reason opposes reason. But if the discussion is for the sake of determining action and if in addition the subject under discussion is strictly a matter of opinion concerning which it is possible for reasonable men perpetually to disagree then it may be necessary to appeal to some principle other than reason.

Traditional political theory appears to offer only two solutions. One principle of decision is to follow the opinion of a single man—an absolute monarch or an elected chief magistrate—whether or not that one man also has the wisdom commensurate with such responsibility. The other principle is to accept the opinion of the majority. According to Aristotle this second principle is operative in every form of government except absolute monarchy. It is not only in democracy he says that the greater number are sovereign for in oligarchy and indeed in every government the majority rules. It is characteristic of every form of constitutional state that whatever seems good to the majority shall be a *God* authority.

Considered in this way the principle of majority rule leaves open the question whether the majority should be a preponderance of the many or the few. Should it be a democratic majority or according to some aristocratic standard the majority of the few who are wiser, more expert or more virtuous than the many? With regard to some questions Aristotle suggests the multitude may be a better judge than any individual even the most expert. If the people are not utterly degraded although individually they may be worse judges than those who have special knowledge as a body they are as good or better.

The opposing claims of the greater number and the more competent as well as the possibility of combining the merits of both are discussed in the chapters on DEMOCRACY and ARISTOCRACY. The problem of majority rule also appears in those chapters as a factor in the theory of representation especially the question considered by Mill—whether the representative shall exercise his own judgment or act on the opinion of the majority of his constituents.

Mill tries to separate those problems of government which should be submitted to representative assemblies and decision by majority from those which should be solved by experts. But even on matters subject to deliberation by representatives of the people Mill advocates such measures as plural voting and minority representation to offset the sheer weight of numbers and prevent its being the decisive force in settling political differences and determining action.

Such qualifications of the principle of majority rule do not seem necessary to those who like Rousseau think that the general will is found by counting votes. What Rousseau says of any individual opinion applies to minority opinions as well namely that when a contrary opinion prevails it proves that what the minority thought to be the general will was not so. On the question of how large a majority should be decisive he thinks that the more grave and important the questions discussed the nearer should the opinion that is to prevail approach unanimity. The more the matter in hand calls for speed the smaller the prescribed difference in the number of votes may be allowed to become.

There is according to Rousseau only one political decision which requires unanimity and that is the decision to enter upon the social contract to set up popular government under which individual liberty endures as long as the qualities of the general will still reside in the majority. When the principle of majority rule is unanimously adopted each individual agrees to substitute the general will for his own particular opinion.

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page number of the passages referred to. For example in 4 HOWER *Iliad* BK II [265 283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53] MES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 IL. TO *Symposium* 163b-164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS** One or more of the main divisions of a work (such as PART BK, CH, SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* BK II [265 283] 12d.

**BIBL. REFERENCES** The references refer to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) folio e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) II *Esdas* 7 46.

**SYMBOLS** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference. *passim* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

- 1 The different objects of knowledge and opinion being and becoming: universal and particular the necessary and the contingent

7 PLATO *Cratylus* 113c 114a m / *Phaedrus* 125a 126c / *Republic* BK V 368c 373c e p 371a 373b K VI VII 383d 398 / *Timaeus* 447b d 450b c 457 d / *Theaetetus* 532 536b / *Sophist* 559c 561d / *Philbus* 632d 635a

8 ARISTOTLE *Prior Analytics* BK I CH 13 [ 134-23] 48b-d / *Posterior Analytics* K I CH 2 [118 16] 97d 98a K 33 121b 122a c / *Topics* K IV CH I [12 20-3] 169a b [ 114-4] 169c / *Metaphysics* BK IV CH 6 [ 113 7] 531b BK VII CH 15 [1039b 31 1040a 8] 563d 564a BK IX CH 10 [1051b 13 18] 577d

9 ARISTOTLE *Ethics* BK I CH 3 [1094b 1 28] 339d 340 CH 7 [1098 25-28] 343d 344a K II CH 2 [1111b 30 1112 14] 357d 358 BK VI CH 5 389a c CH 10 392b BK VII CH 3 396c 398a *passim* / *Rhetoric* BK I CH 25 [ 402b 13 1403 17] 652b-6 3a

11 NICOMACHUS *Arithmetic* BK I 811a d

17 PLOTINUS *Fifth Ennead* TR IX CH 7 249b c

19 AQUINAS *Summa* A 3 ANS 297b

423d Q 86 A 3 463b d A 4 ANS 463d-464d PART II Q 17 A 6 ANS 690b-d

20 AQUINAS *Summa Theologiae* PART II Q 6 A 3 ANS 83b-84d R RT III Q 9 A 3 R P 2 765b 766b

31 DESCARTES *Rules* I III 1a 5a VI 8a 10 / *Discourse* PART IV 53c d / *Meditations* 72b d 74a c I II 75a 78b III 81d 82b V 93a d 95b 96a VI 96b 103d *passim* / *Objections and Replies* 123b 124d 125a 126a II 279d 230d 372b m

31 SPINOZA *Ethics* PART II PROP 10 376c 377 PROP 27 31 384b 385c PROP 40 SCHOL 2 388 b PROP 44 389b 390a

33 PASCAL *Pensées* 231 216b

35 LOCKE *Human Understanding* BK IV CH X SECT 1-3 365a d C I XVII SECT 2 371d 372b

35 HUME *Human Understanding* SECT IV DIV 20-21 458a c DIV 30 462a

42 KANT *Pure Reason* 228c d 240b 243c / *Foundations of Metaphysics of Morals* 285c 286a / *Ideas* 601d 603d 604b

46 HEGEL *Philosophy of Right* PREF 1a 7d INTRO PAR 1 9a PAR 31 19 20a m T II PAR 132 46b 47a ART I 1 PAR 316 104c ADDITION 1115a d

53 JAMES *Psychology* 660b 661a

## 2 The difference between the acts and sources of know ng and opining

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1839<sup>a</sup> 1840<sup>a</sup> 1841<sup>a</sup> 1842<sup>a</sup> 1843<sup>a</sup> 1844<sup>a</sup> 1845<sup>a</sup> 1846<sup>a</sup> 1847<sup>a</sup> 1848<sup>a</sup> 1849<sup>a</sup> 1850<sup>a</sup> 1851<sup>a</sup> 1852<sup>a</sup> 1853<sup>a</sup> 1854<sup>a</sup> 1855<sup>a</sup> 1856<sup>a</sup> 1857<sup>a</sup> 1858<sup>a</sup> 1859<sup>a</sup> 1860<sup>a</sup> 1861<sup>a</sup> 1862<sup>a</sup> 1863<sup>a</sup> 1864<sup>a</sup> 1865<sup>a</sup> 1866<sup>a</sup> 1867<sup>a</sup> 1868<sup>a</sup> 1869<sup>a</sup> 1870<sup>a</sup> 1871<sup>a</sup> 1872<sup>a</sup> 1873<sup>a</sup> 1874<sup>a</sup> 1875<sup>a</sup> 1876<sup>a</sup> 1877<sup>a</sup> 1878<sup>a</sup> 1879<sup>a</sup> 1880<sup>a</sup> 1881<sup>a</sup> 1882<sup>a</sup> 1883<sup>a</sup> 1884<sup>a</sup> 1885<sup>a</sup> 1886<sup>a</sup> 1887<sup>a</sup> 1888<sup>a</sup> 1889<sup>a</sup> 1890<sup>a</sup> 1891<sup>a</sup> 1892<sup>a</sup> 1893<sup>a</sup> 1894<sup>a</sup> 1895<sup>a</sup> 1896<sup>a</sup> 1897<sup>a</sup> 1898<sup>a</sup> 1899<sup>a</sup> 1900<sup>a</sup> 1901<sup>a</sup> 1902<sup>a</sup> 1903<sup>a</sup> 1904<sup>a</sup> 1905<sup>a</sup> 1906<sup>a</sup> 1907<sup>a</sup> 1908<sup>a</sup> 1909<sup>a</sup> 1910<sup>a</sup> 1911<sup>a</sup> 1912<sup>a</sup> 1913<sup>a</sup> 1914<sup>a</sup> 1915<sup>a</sup> 1916<sup>a</sup> 1917<sup>a</sup> 1918<sup>a</sup> 1919<sup>a</sup> 1920<sup>a</sup> 1921<sup>a</sup> 1922<sup>a</sup> 1923<sup>a</sup> 1924<sup>a</sup> 1925<sup>a</sup> 1926<sup>a</sup> 1927<sup>a</sup> 1928<sup>a</sup> 1929<sup>a</sup> 1930<sup>a</sup> 1931<sup>a</sup> 1932<sup>a</sup> 1933<sup>a</sup> 1934<sup>a</sup> 1935<sup>a</sup> 1936<sup>a</sup> 1937<sup>a</sup> 1938<sup>a</sup> 1939<sup>a</sup> 1940<sup>a</sup> 1941<sup>a</sup> 1942<sup>a</sup> 1943<sup>a</sup> 1944<sup>a</sup> 1945<sup>a</sup> 1946<sup>a</sup> 1947<sup>a</sup> 1948<sup>a</sup> 1949<sup>a</sup> 1950<sup>a</sup> 1951<sup>a</sup> 1952<sup>a</sup> 1953<sup>a</sup> 1954<sup>a</sup> 1955<sup>a</sup> 1956<sup>a</sup> 1957<sup>a</sup> 1958<sup>a</sup> 1959<sup>a</sup> 1960<sup>a</sup> 1961<sup>a</sup> 1962<sup>a</sup> 1963<sup>a</sup> 1964<sup>a</sup> 1965<sup>a</sup> 1966<sup>a</sup> 1967<sup>a</sup> 1968<sup>a</sup> 1969<sup>a</sup> 1970<sup>a</sup> 1971<sup>a</sup> 1972<sup>a</sup> 1973<sup>a</sup> 1974<sup>a</sup> 1975<sup>a</sup> 1976<sup>a</sup> 1977<sup>a</sup> 1978<sup>a</sup> 1979<sup>a</sup> 1980<sup>a</sup> 1981<sup>a</sup> 1982<sup>a</sup> 1983<sup>a</sup> 1984<sup>a</sup> 1985<sup>a</sup> 1986<sup>a</sup> 1987<sup>a</sup> 1988<sup>a</sup> 1989<sup>a</sup> 1990<sup>a</sup> 1991<sup>a</sup> 1992<sup>a</sup> 1993<sup>a</sup> 1994<sup>a</sup> 1995<sup>a</sup> 1996<sup>a</sup> 1997<sup>a</sup> 1998<sup>a</sup> 1999<sup>a</sup> 2000<sup>a</sup> 2001<sup>a</sup> 2002<sup>a</sup> 2003<sup>a</sup> 2004<sup>a</sup> 2005<sup>a</sup> 2006<sup>a</sup> 2007<sup>a</sup> 2008<sup>a</sup> 2009<sup>a</sup> 2010<sup>a</sup> 2011<sup>a</sup> 2012<sup>a</sup> 2013<sup>a</sup> 2014<sup>a</sup> 2015<sup>a</sup> 2016<sup>a</sup> 2017<sup>a</sup> 2018<sup>a</sup> 2019<sup>a</sup> 2020<sup>a</sup> 2021<sup>a</sup> 2022<sup>a</sup> 2023<sup>a</sup> 2024<sup>a</sup> 2025<sup>a</sup> 2026<sup>a</sup> 2027<sup>a</sup> 2028<sup>a</sup> 2029<sup>a</sup> 2030<sup>a</sup> 2031<sup>a</sup> 2032<sup>a</sup> 2033<sup>a</sup> 2034<sup>a</sup> 2035<sup>a</sup> 2036<sup>a</sup> 2037<sup>a</sup> 2038<sup>a</sup> 2039<sup>a</sup> 2040<sup>a</sup> 2041<sup>a</sup> 2042<sup>a</sup> 2043<sup>a</sup> 2044<sup>a</sup> 2045<sup>a</sup> 2046<sup>a</sup> 2047<sup>a</sup> 2048<sup>a</sup> 2049<sup>a</sup> 2050<sup>a</sup> 2051<sup>a</sup> 2052<sup>a</sup> 2053<sup>a</sup> 2054<sup>a</sup> 2055<sup>a</sup> 2056<sup>a</sup> 2057<sup>a</sup> 2058<sup>a</sup> 2059<sup>a</sup> 2060<sup>a</sup> 2061<sup>a</sup> 2062<sup>a</sup> 2063<sup>a</sup> 2064<sup>a</sup> 2065<sup>a</sup> 2066<sup>a</sup> 2067<sup>a</sup> 2068<sup>a</sup> 2069<sup>a</sup> 2070<sup>a</sup> 2071<sup>a</sup> 2072<sup>a</sup> 2073<sup>a</sup> 2074<sup>a</sup> 2075<sup>a</sup> 2076<sup>a</sup> 2077<sup>a</sup> 2078<sup>a</sup> 2079<sup>a</sup> 2080<sup>a</sup> 2081<sup>a</sup> 2082<sup>a</sup> 2083<sup>a</sup> 2084<sup>a</sup> 2085<sup>a</sup> 2086<sup>a</sup> 2087<sup>a</sup> 2088<sup>a</sup> 2089<sup>a</sup> 2090<sup>a</sup> 2091<sup>a</sup> 2092<sup>a</sup> 2093<sup>a</sup> 2094<sup>a</sup> 2095<sup>a</sup> 2096<sup>a</sup> 2097<sup>a</sup> 2098<sup>a</sup> 2099<sup>a</sup> 2100<sup>a</sup> 2101<sup>a</sup> 2102<sup>a</sup> 2103<sup>a</sup> 2104<sup>a</sup> 2105<sup>a</sup> 2106<sup>a</sup> 2107<sup>a</sup> 2108<sup>a</sup> 2109<sup>a</sup> 2110<sup>a</sup> 2111<sup>a</sup> 2112<sup>a</sup> 2113<sup>a</sup> 2114<sup>a</sup> 2115<sup>a</sup> 2116<sup>a</sup> 2117<sup>a</sup> 2118<sup>a</sup> 2119<sup>a</sup> 2120<sup>a</sup> 2121<sup>a</sup> 2122<sup>a</sup> 2123<sup>a</sup> 2124<sup>a</sup> 2125<sup>a</sup> 2126<sup>a</sup> 2127<sup>a</sup> 2128<sup>a</sup> 2129<sup>a</sup> 2130<sup>a</sup> 2131<sup>a</sup> 2132<sup>a</sup> 2133<sup>a</sup> 2134<sup>a</sup> 2135<sup>a</sup> 2136<sup>a</sup> 2137<sup>a</sup> 2138<sup>a</sup> 2139<sup>a</sup> 2140<sup>a</sup> 2141<sup>a</sup> 2142<sup>a</sup> 2143<sup>a</sup> 2144<sup>a</sup> 2145<sup>a</sup> 2146<sup>a</sup> 2147<sup>a</sup> 2148<sup>a</sup> 2149<sup>a</sup> 2150<sup>a</sup> 2151<sup>a</sup> 2152<sup>a</sup> 2153<sup>a</sup>

(2 *The difference between the acts and sources of knowing and opinion 2a The influence of the emotions on the formation of opinion wishful thinking, rationalization prejudice*)

- x 403a 405a BA VI 505a 511b BK VII 534d 536a BA VIII 585b EPILOGUE I 645a 646c EPILOGUE II 686 687a
- 53 JAMES *Psychology* 652a 659a esp 652a 654a
- 54 FREUD *Origin and Development of Psychoanalysis* 13d 14a / *Psychoanalytic Therapy* 125a 126d / *General Introduction* 452c 453a / *Beyond the Pleasure Principle* 661d 662a / *Group Psychology* 682b d / *War and Death* 760d 761a / *Neurotic and Story Lectures* 819b = 864a 865c 874b 875a 877b-c

2b The will as cause of assent in acts of opinion

- 8 ARISTOTLE *Po Analytics* BK I CH I [24 21<sup>b</sup>] 39a c
- 9 ARISTOTLE *Ethics* BK III CH 2 [1111<sup>b</sup>30-1112 13] 357d 358a
- 19 AQUINAS *Summa Theologiae* PART I Q 17 A 6 690b d
- 20 AQUINAS *Summa Theologiae* PART II Q 1 AA 4-5 382c 384b Q 2 A 1 REP 3 391a 392a A 9 REP 2 398 399b
- 31 DESCARTES *Discourse* PART III 48b-51b passim / *Meditations* IV 89a 93a esp 90b 91b / *Objections and Replies* 126a b 167a b 215d 216
- 31 SPINOZA *Ethics* K II PROP 49 DE ONST SCHOL 391c 394a
- 33 PASCAL *Pensées* 99 191a / *Geometrical Demonstration* 439b-442a
- 53 JAMES *Psychology* 636a b 660b 661a

2c Reasoning and argument concerning matters of opinion comparison of demonstration and persuasion principles and assumptions axioms and postulates

- 7 PLATO *Meno* 187 189d / *Geias* 256b c / *Republic* BK VI VII 383d 398c / *Timaeus* 457c d
- 8 ARISTOTLE *Prior Analytics* BK I CH I [71 197a CH 19 [81<sup>b</sup>10-3] 111c d CH 30 119d / *Topics* 143 223 c / *Sophistical Refutations* 227a 253d / *Physics* K VI CH I [325<sup>a</sup>23 32] 336 / *Metaphysics* BK IV CH 5 [1009 16-22] 528c K XI H II [1063<sup>b</sup>7 14] 591d 592a
- 9 ARISTOTLE *Ethics* K I I 3 [1091<sup>b</sup> 1 28] 339d 340a CH 7 [1098 2, 8] 343d 344a K VI CH 5 389 esp [1140 5 3] 389c K VII CH 3 396 398a CH 8 [5 1 19] 401d 40 CH 9 [151 8<sup>b</sup> 6] 402b c / *Rhetoric* 593a 675a esp BK I C I I 593 598b K II C 8 26 639a 653a BK II C I 7 672a 673
- 12 EPICTETUS *Discourses* K I II 5 110b c BK II C I 1 0a 151b

- 19 AQUINAS *Summa Theologiae* PART I Q 12 A 7 ANS and REP 2 56a 57b Q 46 A 2 A 3 253a 255a Q 47 A 1 REP 3 256a 257b Q 6 A 2 REP 2 350b 351a Q 82 A 1 432 433c Q 83 A 1 ANS 436d 438a Q 108 A 7 REP 2 560b 561a

- 20 AQUINAS *Summa Theologiae* PART II Q 51 A 3 14b 15a Q 6, A 3 A 5 83b 84d PART III Q 9 A 3 REP 2 765b 766b

- 23 HOBBS *Leviathan* PART I 60d 65b-d P RT II 127d 128d

- 30 BACON *Advancement of Learning* 56c 59b 61b d 65a c

- 31 DESCARTES *Discourse* PART III 48b 51b passim / *Objections and Replies* 126a b

- 34 HUYGENS *Light* PREF 551b-552a

- 35 LOCKE *Treatise* 3c-4a / *Human Understanding* BK I CH I SECT 27 103b c BK IV C I XV 365a 366c CH XVII SECT 2 371d 372b ECT 15 17 378d 379c SECT 19-21 3 9d 380b

- 35 HUME *Human Understanding* SECT IV 458a 463d esp DIV 20-21 458a c, DIV 30 461d 462b SECT VI 469d-470d esp 469d [fn 1] SECT XII DIV 131 132 508d 509d

- 36 STERNE *Tristram Shandy* 227a 228a

- 37 FIELDING *Tom Jones* 261c d

- 42 HUME *Pure Reason* 215a 218d / *Pref. Moral Philosophy* 376c d / *Of the Principles of Morals* 600d 603d esp 603a b

- 43 MILL *Liberty* 274b 293b passim

- 44 BOSWELL *John* n 299b-d

- 46 HEGEL *Philosophy of Right* P RT III par 317 104d 105a

- 48 MELVILLE *Moby Dick* 272b 276b esp 276a b

- 51 TOLSTOY *War and Peace* BK IV 365a-c EPI LOUE I 661c 662a 668a 669c 672a b

2d Reason experience and authority as sources of opinion

- 7 PLATO *Meno* 174a d / *Theaetetus* 517b-518a 522b 523a 525a 527b

- 8 ARISTOTLE *Topics* BK I CH I [100<sup>b</sup>21 101 15] 143b d

- 9 ARISTOTLE *Ethics* BK I CH 3 [1091<sup>a</sup>29-1092 3] 340a BA VI CH 8 [1179 16-21] 433d 434 / *Rhetoric* BK I CH 7 [1363<sup>b</sup>12 18] 606b

- 10 GLEN *Natural Philosophy* BK I CH 14 179d 179a

- 19 AQUINAS *Summa Theologiae* PART I Q 1 A 3b 4a A 8 REP 2 7c 8d Q 12 A 7 ANS 56a 57b Q 83 A 1 ANS 436d 438a

- 20 AQUINAS *Summa Theologiae* PART I Q 1 A 3 14b 15a P RT II Q 2 A 3 A 5 392d 393c Q 4 A 8 K P 2 409 d

- 23 HUME *Leviathan* PART 56b d 58d 59a 60c 61a 66a = 78a c PART II 128d 129b COCLUSION 282c d

- 25 MONTAIGNE *Essays* 65a 66a 259d 261a 270c 271b 524d 525a

- 28 HUME *Mist of the Heart* 279d 2 0a 285b / *Calculus of the Blood* 306a c

- 319c d / *On Animal Generation* 333c d  
335a f 364 365
- 30 BACON *Adancement of Learning* 12c 13c  
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- 31 DESCARTES *Rules* III 3b-4a / *Objections and Replies* 168b d
- 33 PASCAL *Pensees* 260 220b 221a / *Vacuum*  
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- 35 LOCUS *Human Understanding* 85a 87b c  
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- 35 B = ELEY *Human Knowledge* INTRO SECT  
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- 35 HUME *Human Understanding* S CT IV VI  
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- 38 ROUSSEAU *Social Contract* X V 434b-435a
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- 43 FIDELIS NUMER 49 159d 160a
- 43 MILL *L. berty* 269 270 275a 277b 283c  
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- 44 BOWEN *John* on 129b
- 46 HENRY *Philosophy of Right* ADDITIONS 91  
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- 51 T. L. T. *War and Peace* BK IV 170d 171  
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- 54 FREUD *Psychoanalytic Therapy* 125a b
- 3 Opinion knowledge and truth
- 35 The truth of knowledge and of the opinion  
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- 7 PLATO *Protagoras* 62c / *Crasyl* 103d / *Sym-  
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- 8 ARISTOTLE *Categories* CH 5 [4 10-b] 38b 9a /  
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- 9 ARISTOTLE *Ethics* BK I CH 3 [1094 12] CH 4  
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- 17 PLUTINUS *S. v. Ennead* TR VII CH 3 344a
- 19 AQUINAS *Summa Theologiae* PART I Q 16  
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- 20 AQUINAS *Summa Theologiae* PART I Q 53  
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- 23 HOBBS *Leviathan* PART I 53c 54a 60c 61a  
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- 31 DES ARTES *Dis se* PART I 43d PART II  
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- 31 S. NOZA *Ethics* PART I PRO 43 388c 389b
- 32 MILTON *Areopagitica* 406a
- 42 HANT *P. c. Rea* on 240b 243c / *Judgement*  
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- 43 MILL *L. berty* 276b 277a 283c 288
- 46 II C. L. *Philosophy of Right* ADDITIONS I  
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- 36 Certain and probable adequate and in-  
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titude modes of assent
- 7 P. ATO *Republic* BK V 370d 373 K VI-  
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- 8 A. TOTL *Interpretation* on CH 9 28a 29d / *P.  
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30] 182b c / *Met. ology* K H 7 [344 5 7]  
450b / *Met. p. h.* BK IV CH 3 [1005 8 31]  
524c 525a K V H 15 [1 39 31 1040 8]  
563d 564 BK XI CH 8 [1074 14 16] 604c
- 9 A. I. TOTL *Ethics* BK VI CH 3 [1139 4 34]  
388b / *Rhetoric* BK I H I [1355 4 7]  
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- 10 HIPPOCRATES *The Law* p 4 144d
- 11 AURILIUS *Methodus* BK IV CT 264c
- 16 COERNICUS *Revolutions of the Heavens*  
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- 18 AUSTRAL *C. f. n. n. n. p.* 9 32b /  
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(3) *Opin on knowledge and truth 3b Certain and probable adequate and inadequate knowledge degrees of cert itude modes of assent*

- 19 AQUINAS *Summa Theologica* PART I Q 12 A 7 ANS and REP 2 56a 57b Q 14 A 13 ANS and REP 3 86d 88c Q 47 A 1 REP 3 256a 257b Q 57 A 3 ANS 297b 298a Q 58 A 7 R P 3 305c 306b Q 82 A 2 ANS 432d-433c Q 86 A 4 ANS 463d-464d PART I II Q 17 A 8 ANS 690b d
- 20 AQUIN S *Summa Theologica* P RT I II Q 51 A 3 14b 15a Q 67 A 3 ANS 83b 84d PART II II Q I AA 4-5 382c 384b Q 4 A 8 ANS 409a d PART III Q 9 A 3 REP 2 765b-766b
- 21 RVEY *On An mal Generation* 333c d
- 30 BACON *Adia ceme i of Lea ni g* 27a c
- 31 DESCARTES *Riles* II 2a 3b III 3d-4a XII 22 b / *D sco rse* P RT II 49 b 49d 51a PART I 51b 52a 53c d / *Med itati* s 72b d 74a c I III 75a 82d v 95b-96a VI 96b 103d pass m / *Objections a d Repl es* 123b 125b 126 b IOSTUL TE I III 130d 131a POSTU LATE VI VII 131c 152d 153c 226d 237b c
- 31 SPINOZA *Ethies* PART II DEP 4 373b PROP 27 31 384b 385c PROP 37 44 385b 390a ROP 49 SC IOL 391d 392a ART III ROP 17 SCHOL 401d 402a
- 33 PASCAL *Pensées* 233 241 213b 217b
- 35 LOCKE *Hum n U derst d ng* INTRO 93 95d pass m BK I C II SE T 2 307a CH II SECT 14 31 b c III SECT 25 29 321 323a passum CH I SECT 3 12 324b 326d CH VI 331b 336d passum esp SECT 13 335c d CH VI s c 9 11 356d 357c CH XII SECT 6-14 360a 363a p s s m CH XIV XVI 364b 371c CH XVII SECT 2 371d 372b SECT 14 17 378c 379c C I X SECT 1 384c d
- 35 HU IZ *Humana Understa ding* s CT V DIV 20 I 458 s DIV 30 462 SECT VI 469d [In i] s CT X DIV 86-91 488d 491c passum esp DIV 87 489b d
- 38 ROUSSE U I *q alty* 348a c
- 39 S TH II *alth f Nat ons* BK V 335d 336a
- 42 KANT *Pure Rea o* 1-4a c 14 15c 39c 41c esp 40d-41 194b-c 211 218d esp 217c d 228 ■ 230c 233d 240b 243c / *P act cal R ason* 330d 331a / *Judgement* 600d 603d
- 43 M LL *Liberty* 274b 293b passum
- 46 H EL *Philo phy of R ght* INTRO par 31 19 20a PART III par 318 105b ADD TIONS 91 131a d
- 54 Γ A UD *General Introduct* 463d / *Bey nd th Pl asur P r ciple* 661c 672a

3c The skeptical reduct on of human judgments to op n on

- 7 PL TO *Cratylu* 86a d 107d 109a / *Ph do* 236 238 / *Republc* xvi 400 d / *Timae us* 457c d / *Thea t s* s 517b 532a p s m esp 517b c 522b 525a 526 531b 532a

- 8 ARISTOTLE *Posterior Analytcs* BK I CH 3 [1<sup>a</sup> 2<sup>a</sup> 5 18] 99b / *Metaphysics* BK IV CH 5-6 528c 531c BK X CH I [10<sup>a</sup> 3 31 3<sup>a</sup>] 580a CH 6 [10<sup>a</sup> 7 7 11] 584b BK XI CH 6 [106<sup>a</sup> 12 106<sup>b</sup> 14] 590d 592a
- 12 LUCRETIVS *Nature of Things* BK IV [469-471] 50b
- 12 EPICTETUS *Discourses* BK II CH 20 164 166c
- 18 AUGUSTINE *Confessions* BK I par 19 32b-c / *City of God* BK XIX CH 18 523a b
- 19 AQUINAS *Summa Theologica* PART I Q 84 A 1 ANS 440d-442a
- 25 MONTAIGNE *Essays* 80b-82b 208a 294b esp 212c 215a 238c 246a 258c 261c 267c 268a 271b-273b 276b-278a 285c 294b 308c d 318a 319b 439c-440a 497d 502c
- 30 ■ COM *Advancement of Lea nng* 57d 58b 95d 96a / *Nos tm Organu i* BK I APR 67 115d 116a
- 31 DE CARTES *D scourse* PART II 46b-c / *Objections and Repl i* 272a 273a
- 33 PASCAL *Pensées* 385 238b 239a
- 35 BERKELEY *Hum i Knowledge* I TAO SECT 3 405a c SECT 86-88 429c-430b
- 35 HUME *Human Understand ng* SECT IV DIV 26 460b c SECT IV DIV 23 SECT V DIV 3 460d-466c SECT VII D V 60 477a-c SECT X 503c 509d
- 42 F NT *Pure Reason* 224a 227a / *Practical Reason* 294c 295d 311d 313a
- 43 MILL *Liberty* 274b 293b passum
- 44 BOSWELL *Johnson* 121c d
- 46 H E L *Philosophy of Right* PREV 2c 6 7a RT III par 270 86b c
- 50 MART ENCELS *Communi st Man festo* 428b-d
- 51 TOLSTOY *War and Peace* BK V 194a 195a
- 52 DOSTO VSKY *Brothers Karamazov* BK VI 168b c
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- 15 TACITUS *History* BK IV 274b
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- 23 HOS *s Leviathan* PART 51d 52b 56b d 68d 69b 79a b 79b 84c *passim* PART II 149d 151a c 163 b PART III 165d 166a 172a 177c esp 172b d 192c 195d PART IV 247a 267a 269b 271 272b c 274a c 276
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- 54 FR UD *New Introductory Lectures* 874a 875a 877b 880b 881c 883d 884a

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- 25 MONTAIGNE *Essays* 7a d 80b 82b 208b e 240c 242a 270a 271a 381a 388c passim 446d-450c 497d 502c 521d 522a
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- 51 TOLSTOY *War and Peace* bk V 233b 234a bk VIII 307d 309c passim esp 308b bk IX 384c 388a c
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- 6 THUCYDIDES *Peloponnesian War* bk II 397b bk III 425a d 427a e
- 7 PLATO *Protagoras* 43b-c / *Sitteman* 601c 602c
- 15 TACITUS *Annals* bk III 57a bk IV 72b 73a e XIV 153b-c
- 23 HOBBS *Leviathan* PART II 102d 103a 114d 115a 129b 130a 149b d 150c 151a 155d 156b PART IV 274c d
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- 42 KANT *Pure Reason* 220b 221b 223a c
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(7) *The social and political significance of public opinion* 7a *The value of the majority opinion and its effect on between matters to be determined by the expert or by a consensus*

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## CROSS REFERENCES

For Other discussions of the distinction between knowledge and opinion in terms of their objects see BEING 8c KNOWLEDGE 4b NECESSITY AND CONTINGENCY 4a PRINCIPLE 3c(2) TRUTH 6f TRUTH 3b(2) and for other discussions of this distinction in terms of psychological causes see CUSTOM AND CONVENTION 9a DESIRE 5b EMOTION 3b WILL 3b(1)  
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The more limited skepticism which treats philosophy as opinion in contrast to science see METAPHYSICS 4a PHILOSOPHY 6b SCIENCE 7a and for still another variety of skepticism which treats all moral or aesthetic judgments as matters of opinion see BEAUTY 5 CUSTOM AND CONVENTION 5f GOOD AND EVIL 6d RELATION 6c UNIVERSAL AND PARTICULAR 7b  
The special problem of applying moral principles or legal rules to particular cases see JUSTICE 10d LAW 5g REASONING 5c-5c(3) UNIVERSAL AND PARTICULAR 6c  
The conception of supernatural faith as distinguished from both science and opinion see GOD 6c-6c(2) KNOWLEDGE 6c(5) RELIGION 1a THEOLOGY 2 4b TRUTH 4a WILL 3b(3) and for the treatment of religious faith as ordinary belief or as the result of the will to believe see GOD 1a RELIGION 6f SCIENCE 7a THEOLOGY 5 WILL 3b(1) 3b(3)  
Other considerations of the problem of freedom in the sphere of opinion see KNOWLEDGE 9b LIBERTY 1a PROGRESS 6c TRUTH 8d  
Other considerations of the value of the majority opinion the principle of majority rule and the problem of minority opinions see ARISTOCRACY 6 CONSTITUTION 9-9a DEMOCRACY 2a 3b 5b(1) GOVERNMENT 1b STATE 8d(3) TYRANNY 2c

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the ideas and topics with which this chapter deals. These works are divided into two groups.

I Works by authors represented in this collection

II Works by authors not represented in this collection

For the detailed placement of facts concerning the publication of the works cited consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

## I

ALBUQUERQUE *On the Profit of Belief*  
— *Of the Things Unseen*  
FBC *Of the Claims of God and Evil*  
LOCKE *Concerning the Understanding*  
HUME *At the of the Nature* BK I PART IV  
SECT 1-5

KANT *Introduction to Logic* BK  
JSM *A System of Logic* BK CH 5  
WJAMES *The Will to Believe*

## II

SXUS *EMIRICUS* *Of the of Pyrrh* BK  
I-II  
NCOLE *On the Dialectic* or 1a

- BROWNE *Pseudodoxia Epidemica* (*Vulgar Errors*)  
 SANDERSON *De Obligatione Conscientiae* (*On the Obligations of Conscience*)  
 J. TAYLOR *Ductor Dubitantium*  
 GLANVILLE *The Variety of Dogmatizing*  
 VOLTAIRE *Opinion* Sect. in *A Philosophical Dictionary*  
 BUTTIE *An Essay on the Nature and Immutability of Truth*  
 T. REID *Essays on the Act and Powers of the Human Mind* III PART II CH. 8  
 HAZLITT *Table Talk* VII  
 DE MORGAN *A Budget of Paradoxes*  
 J. H. NEVILLAN *Private Judgment* in VOL. II *Essays and Sketches*  
 — *An Essay in Aid of a Grammar of Assent*  
 VVV *On Some of the Characteristics of Belief Scientific and Religious*  
 MORLEY *On Compromise*  
 CLIFFORD *The Ethics of Belief* in VOL. II *Lectures and Essays*  
 C. S. LEWIS *Collected Papers* VOL. I part 358 ff.  
 A. SIDGWICK *Distinction and the Criticism of Belief*  
 HALFORD *The Foundations of Belief*  
 BOSQUET *Science and Philosophy* 3  
 HODDER *The Adversaries of the Scripture*  
 DICEY *The Relation Between Law and Public Opinion in England During the Nineteenth Century*  
 BRADLEY *Essays on Truth and Reality* CH. 2  
 T. VERLEN *The Vested Interests and the State of the Industrial Arts* CH. 1  
 B. RUSSELL *The Analysis of Matter* LECT. 12  
 LIPPMAN *Public Opinion*  
 KIRK *Ignorance, Faith and Conformity*  
 LAIRD *Knowledge, Belief and Opinion*  
 GILL *The Necessity of Belief*

## Chapter 65 OPPOSITION

### INTRODUCTION

CERTAIN words in the vocabulary of common speech used at almost every turn of discourse indicate ideas so indispensable to human thought that they are often employed without analysis. The word *is* is one of these signifying the idea of being or existence. The word *not* and the pair of words *either* or *have* the same character. Taken together *not* and *either* or signify the idea of opposition. The quality of redness is *not* the same as the quality of hotness yet this negative relation by itself does not make them opposites for something can be red hot. It is only when a thing can have *either* one quality *or* another but *not* both that the qualities are said to be opposed. Opposites are more than merely distinct: they exclude one another.

Opposition seems to be as pervasive as the familiar words which signify it. Even if it were not itself one of the great ideas it would be manifest in all the other basic notions which come in antithetical pairs: e.g. good and evil, life and death, war and peace, universal and particular, pleasure and pain, necessity and contingency, same and other, one and many, virtue and vice. Each of these notions seems to imply its opposite and to draw its meaning from the opposition. There are other terms in the list of great ideas which though not paired in the same chapter stand opposed to one another: art to nature, chance to fate, liberty to slavery, time to eternity, knowledge to opinion, matter to form, democracy to oligarchy and similarly other forms of government. Still other terms cannot be discussed without reference to their opposites even though we have not explicitly listed them: such as being and non-being, truth and falsity, love and hate, justice and injustice, wealth and poverty.

The enumeration might extend to include every fundamental notion except for the in-

convenience in certain cases of not having readily familiar names to designate the opposites. In some instances moreover the opposition seems to involve more than a pair of terms as for example is the case with poetry, history and science or physics, mathematics and metaphysics.

In the tradition of the great books we not only find the opposition of one idea to another but we also find opposite points of view, conflicting theories or doctrines in the discussion of almost every basic topic under the heading of these ideas. We find the same word used with contrary meanings, the same proposition affirmed and denied. We find reasoning opposed to reasoning. The same conclusion is reached from apparently opposite principles or opposite conclusions are drawn from premises apparently the same.

But though opposition seems to be inherent in the realm of ideas and in the life of thought the idea of opposition is not itself explicitly thought about in many of the great books. This does not mean that in the consideration of other matters the significance and consequences of opposition go unnoted. On the contrary all the chapters dealing with the nature and conduct of man or with the institutions and history of society give evidence of the general recognition—by poets and historians, by scientists and philosophers—that opposition in the form of active conflict characterizes the phenomenon. The fact of warring opposites not only enters into descriptions of the way things are but also poses problems for psychologists, moralists, economists and statesmen to solve.

The study of nature as well as of man and society discovers opposition at the root of change. The physics of antiquity for example defines the elements or the bodily humours in terms of contrary qualities according to Aristotle contraries are among the

ciples of nature—the terms of change. The cosmology of Lucretius makes the conflict of opposites the principle of growth and decay in the universe. Destruction struggles against creativity, life against death. The death-dealing motions, the poet writes, cannot keep the mastery always nor entomb existence for ever more; nor on the other hand can the birth and increase-giving motions of things preserve them always after they are born. Thus the war of first beginnings, waged from eternity, is carried on with dubious issue: now here, now there, the life-bringing elements of things get the mastery and are overmastered in turn.

Modern mechanics deals with action and reaction in the impact of bodies and the resolution of forces tending to produce opposite results. The theory of evolution pictures the world of living organisms as engaged in the struggle for survival, organism competing with organism or against an adverse environment for the means of subsistence or reproduction.

These indications of the prevalence of conflict in the realm of thought itself, or as a fundamental conception in man's thinking about nature and society, do not alter the point that only in logic or metaphysics is opposition abstracted from special subject matters to become itself the object of thought. Even so, not all of the great speculative works develop an explicit theory of opposition—classifying its types, analyzing its structure, formulating it as a universal principle of being, mind or spirit.

Four authors especially treat opposition as a primary theme, though not out of the context of such other notions as being, relation, one and many, same and other, or identity and difference. They are Plato, Aristotle, Kant and Hegel. It should not be surprising that the same authors are the principal figures in the chapter on DIALECTIC. Their disagreement about the nature or meaning of dialectic has a parallel here in their conflicting theories of opposition.

SOCRATES ARGUES in the *Protagoras* for the unity of virtue by using the principle that everything has one opposite and not more than one. If wisdom is the opposite of folly, and if it also appears that folly is opposed by temperance, then either wisdom and temperance are the same, or a thing may have more

than one opposite. Protagoras reluctantly accepts the first alternative: he is apparently unwilling to re-open the question concerning the pairing of opposites. But the question is re-opened by others. It is one of the great problems in the theory of opposition relevant to the distinction of different kinds of opposites.

The problem can most readily be stated in terms of the logical processes of division and definition. On the hypothesis that opposites always come in pairs, every class can be divided into two sub-classes which not only exclude each other, but also exhaust the membership of the divided class. Such division is called dichotomy. Many of the Platonic dialogues—notably the *Sophist* and the *Statesman*—embody the method of dichotomous division, used as a device for constructing definitions. The object to be defined, the character of the statesman or the sophist, is finally caught in the net of classification when division after division, having been made, two sub-classes are reached which leave no other possibilities open. The thing is either one or the other.

In the *Sophist* a preliminary exercise is undertaken in the method of division as preparation for the use of this method to define the sophist. It will serve us here as an example of dichotomy. All the arts are first divided into two kinds: the productive and the acquisitive; then the acquisitive arts are divided into those making voluntary exchanges and those which obtain goods by coercion; the coercive divides into fishing and hunting according to the alternatives of open or secret attack; hunting into the hunting of the lifeless and the living; hunting of the living into hunting of swimming or walking animals; the hunting of swimming animals into the hunting of winged animals and the hunting of water animals; the hunting of water animals into opposite methods of catching fish, with further sub-divisions made until the art of angling can be defined as an acquisitive art which being coercive is a form of hunting distinguished from other forms of hunting by the character of its object—animals which swim in water rather than air—and by the method used to catch them—hooks or barbs rather than nets or baskets.

Aristotle objects to this process of division as a way of defining things. Some writers, he

says propose to reach the definitions of the ultimate forms of animal life by bipartite division. But this method is often difficult and often impracticable. For one thing it tends to associate or dissociate natural groups arbitrarily e.g. the classification of birds with water animals or of some birds with fish and some birds with land animals. If such natural groups are not to be broken up the method of dichotomy cannot be employed for it necessarily involves such breaking up and dislocation.

Aristotle also calls attention to the fact that the method of dichotomy often uses negative terms in order to make an exhaustive division into two and only two sub-classes. But the class which is formed by a negative characterization cannot be further sub-divided. There can be no specific forms of a negation of featherless for instance or of footless as there are of feathered and of footed. It is impossible Aristotle says, to get at the ultimate specific forms of animal life by bifurcate division. He therefore proposes a method of defining by genus and difference according to which it is possible in biological classification to sub-divide a genus into more than two species. To avoid sub-division into two and only two that which differentiates each species from the others within the same genus must be some positive characteristic.

As ALTERNATIVE methods of definition dichotomous division and the differentiation of species within a genus are discussed in the chapter on DEFINITION. Here we are concerned with the problem of the number of opposites produced by the exhaustive division of a class or kind. For example *how many species of color are there?* If the primary colors are more than two it would appear that each primary color has more than one opposite since the same object at the same time and in the same respect cannot be both red and yellow, red and green, green and yellow. But Aristotle seems to restrict the notion of contrariety to pairs of opposite qualities. Red, yellow and such colors though qualities have no contraries he says. Whether or not he would have regarded them as contraries if he had been acquainted with the chromatic series of the spectrum remains a conjecture.

To find a single opposite for red it is neces-

sary to employ the negative term *not red*. But then another difficulty arises which Aristotle recognizes when he calls the negative term *indefinite* and which Kant discusses when he treats the infinity of the negative. The *not red* includes more than other colors which are not red such as green and yellow. It includes every thing in the universe colored or colorless which is *not red* e.g. happiness or atoms or poetry.

Perfect dichotomy can be achieved by using positive and negative terms as opposites or what Aristotle sometimes calls *contradictory terms*—such as *man* and *not man* or *just* and *not just*. But the class which is thus divided is absolutely indeterminate. It is the universe everything the infinite. It is necessary further more to distinguish between the opposition of *just* and *not just* and the opposition of *just* and *unjust*. The term *unjust* is the contrary rather than the contradictory of *just* for these opposites apply only to men or laws or acts only certain kinds of things are either *just* or *unjust* and that is why it is said that contraries are always opposites within a genus or a definite kind. In contrast *not just* is the contradictory rather than the contrary of *just* for these opposites apply to everything in the universe everything is either the kind of thing to which *just* and *unjust* apply or it is the kind of thing to which neither of these terms apply and so it is the *not just*.

In addition to separating contraries (both of which are positive terms) from contradictory opposites (one of which is a positive the other a negative term) Aristotle distinguishes two sorts of contraries. On the one hand such contraries as *odd* and *even* exhaustively divide a limited class (e.g. integral numbers) on the other hand such contraries as *white* and *black* represent the extremes of a continuous series of shades in which any degree of grayness can be considered as the opposite of either extreme or of a darker or a lighter gray.

There are still other kinds of opposite pairs according to Aristotle such as the terms *double* and *half* which have the peculiarity of implying each other or the term *blindness* and *sight* which are opposite conditions of the same subject. In this last case one of the opposites naturally belongs to a certain kind of



say propose to reach the definitions of the ultimate forms of animal life by bipartite division. But this method is often difficult and often impracticable. For one thing it tends to associate or dissociate natural groups arbitrarily: e.g. the classification of birds with water animals or of some birds with fish and some birds with land animals. If such natural groups are not to be broken up the method of dichotomy cannot be employed for it necessarily involves such breaking up and dislocation.

Aristotle also calls attention to the fact that the method of dichotomy often uses negative terms in order to make an exhaustive division into two and only two sub-classes. But the class which is formed by a negative characterization cannot be further sub-divided. There can be no specific forms of a negation. *Y* and either for instance or of footless as for example All *ered* and of footed. It is objected by some men says to get at the ultimate in a merely contrary animal life by bifurcated white. The latter is a proposed method of definition since it permits the inference according to which the truth of a third logical classification to sub) are white and some more than two species. To say by a contradiction into two and only two that way

each species from the otherists and God does genus must be some postulated a beginning and beginning consti

As ALTERNATIVE methods of a b there seems to be an obvious division and the difference make a difference without genus are discussed great controversy. DEFINITION Here is a western thought to be a problem of the nature of the views which men do not do by the exhaustive issues are genuine

For example how everyone to take sides? If the primary contrary positions would appear the inconsistency of than one op) us from agreeing with be same time dispute but it does not re be both red th either for contrary doc and yellow but the possibilities. Between ion of conditions for example as that

Red, lux and nothing changes both have no true the truth may lie in the would be the elements of permanence he had been change or it may be in the nes of the becoming that lacks per of being that is free from

sary to employ the negative term not red. But then another difficulty arises which Aristotle recognizes when he calls the negative term in definite and which Kant discusses when he treats the infinity of the negative. The not red includes more than other colors which are not red such as green and yellow. It includes every thing in the universe colored or colorless which is not red e.g. happiness or atoms or poetry.

Perfect dichotomy can be achieved by using positive and negative terms as opposites or what Aristotle sometimes calls contradictory terms—such as man and not man must not be the not just. But the class's conclusion be false—or at absolutely be incapable of demonstration by propositions which are also necessarily true?

On both these questions Kant and Aristotle seem to be opposed. According to Aristotle no truths are necessary or axiomatic unless their contradictions are self-contradictory. But Kant makes a distinction between analytical and synthetical propositions (discussed in the chapter on JUDGMENT) and in terms of it he restricts the principle of contradiction to serving as a criterion of truth for analytical judgments alone. In an analytical judgement he writes

whether negative or affirmative its truth can always be tested by the principle of contradiction. But though we must admit Kant continues that the principle of contradiction is the general and altogether sufficient principle of all analytical knowledge beyond this its authority and utility as a sufficient criterion of truth must not be allowed to extend. In the synthetical part of our knowledge we must not doubt take great care never to offend against that inviolable principle but we ought never to expect from it any help with regard to the truth of this kind of knowledge.

The reason Kant explains is that in forming an analytical judgement I remain within a given concept while predicating something of it. If what I predicate is affirmative I only predicate of that concept what is already contained in it if it is negative I only exclude from it the opposite of it. For example if the meaning of the concept whole involves being greater than a part self-contradiction results from denying that the whole is greater than a



In forming synthetical judgments on the contrary I have to go beyond a given concept in order to bring something together with it which is totally different from what is contained in it. Here Kant declares we have neither the relation of identity nor of contradiction and nothing in the judgement itself by which we can discover its truth or its falsehood—for example the judgment that every thing which happens has a cause. The truth of such synthetical judgments according to Kant is as necessary and as *a priori* as the truth of analytical judgments but the principle of contradiction does not provide their ground or validation.

For Aristotle in contrast those propositions which do not derive necessity from the principle of contradiction belong to the sphere of opinion rather than to the domain of knowledge. They can be asserted as probable only not as true or false. In the domain of knowledge it is impossible to construct valid arguments for contradictory conclusions for if one must be true and the other false one can be validly demonstrated and the other cannot be demonstrated at all. But in the sphere of opinion dialectical opposition is possible. Because the contradictory of a probable statement is itself also probable probable arguments can be constructed on the opposite sides of every dialectical issue.

For Kant dialectical issues do not consist in a conflict of opposed probabilities. Far from setting probable reasoning against probable reasoning dialectical opposition consists in what appear to be demonstrations of contradictory propositions. For example in that part of the *Critique of Pure Reason* devoted to the Transcendental Dialectic Kant presents opposed arguments which look like demonstrations of contradictory propositions—such as the thesis that the world has a beginning in time and its antithesis that the world has no beginning or the thesis that there exists an absolutely necessary being and its antithesis that there nowhere exists an absolutely necessary being. These are two of the four issues which Kant calls the antinomies of a transcendental dialectic.

Such issues Aristotle would agree with Kant do not belong to the sphere of opinion or prob-

ability. But Kant would not agree with Aristotle that such issues belong to the domain of science or certain knowledge. The problem of the world's beginning or eternity for example is one which Aristotle treats in his *Physics* and appears to think is solved by the demonstration that motion can have neither beginning nor end. The problem of the existence of a necessary being is one which Aristotle treats in his *Metaphysics* and which he also appears to think is capable of a demonstrative solution. For him therefore both are problems to which scientific answers can be given. But for Kant the demonstration of the antitheses or contradictory propositions in both cases is as cogent as the demonstrations of the theses and therefore since we know that both of a pair of contradictory propositions cannot be validly demonstrated we must conclude that the arguments advanced are only counterfeit demonstrations or as Kant says illusory. He calls these demonstrations dialectical and the issues they attempt to resolve antinomies precisely because he thinks the reasoning goes beyond the limits of scientific thought and because he thinks the issues are problems reason cannot ever solve.

With respect to conclusions affirming or denying matters beyond experience the antinomies can be interpreted either as showing that contradictory arguments are equally sound or as showing that they are equally faulty. On either interpretation Kant and Aristotle seem to be opposed on the applicability of the principle of contradiction to conflicting arguments and conclusions (except of course those which are merely probable). This difference between them accords with the difference in their conceptions of science and dialectic and in their theories of the scope and conditions of valid knowledge.

THE OPPOSITION between Kant and Aristotle may not present the only alternatives. Hegel's theory of the dialectical process seems to offer a third. Where Aristotle appears to think that all contradictions must be resolved in favor of one of the opposites and where Kant appears to think that some contradictions cannot be resolved at all, Hegel proposes the resolution of all contradictions not by a choice between

them but by a synthesis uniting the opposites and reconciling their differences

According to Aristotle opposites exclude one another in existence as well as in thought. A thing cannot both exist and not exist at the same time nor in any particular respect can it simultaneously both be and not be of a certain sort. Only with the passage of time and in the course of change can opposites be realized when a thing passes from being to non being or gives up one attribute in order to assume its contrary.

The difference for Aristotle between becoming and being (or between change and complete actuality) seems to be that the one includes and the other excludes opposites. Change cannot occur except as one opposite comes into existence while the other passes away. But opposites cannot co exist with complete actuality so far as reality consists of co-existent actualities it is limited by the principle of contradiction—as a principle of being—to those which are not contradictory. All possibilities cannot therefore be simultaneously realized for as Leibnitz states the principle all possibilities are not compossible.

According to Hegel every finite phase of reality—everything except the Absolute Idea itself—has its contradictory as real as itself and co-existent with it. Contradictories imply one another and require each other almost as correlative opposites do. Whatever is partial and incomplete presupposes something which is partial and incomplete in an opposite respect. The opposition between them can therefore be overcome by a synthesis which includes them both and which complements each by uniting it with the other.

For example the category of being is opposed by non being. These opposites both exclude and imply one another. They are in a sense even identical with one another insofar as the notion of being contains the notion of non being and conversely the notion of non being the notion of being. Except for the Absolute everything which is also is not and everything which is not also is. The apparent contradiction involved in this simultaneous application of opposite categories to the same thing is overcome by a third category becoming which is the synthesis of being and non being. Being and non being are united in becoming.

This reconciling of opposites by their union in a more inclusive whole embracing both typifies the Hegelian dialectic of thesis antithesis and synthesis. The motion repeats itself as the synthesis of one contradiction faces its own opposite and requires a higher synthesis to overcome the contradiction it has generated. Thus every opposition in reality or thought is a phase in the progressive realization of the Absolute wherein all contradictions are resolved.

In Hegel's *Philosophy of History* and in his theory of the development of the state in the *Philosophy of Right* the dialectical process is exemplified at every stage of progress. The conflict of interdependent opposites—of opposite classes or forces in society of opposite political institutions or principles—calls for a resolution which shall unite rather than exclude the opposites.

Considering the division of labor for example Hegel writes: When men are dependent on one another and reciprocally related in their work and the satisfaction of their needs subjective self seeking turns into a contribution to the satisfaction of the needs of everyone else. That is to say by a dialectical advance subjective self seeking turns into the mediation of the particular through the universal with the result that each man in earning producing and enjoying on his own account *in eo ipso* producing and earning for the enjoyment of everyone else. The opposition between the particular good of each individual and the universal good of all is thus overcome by that advance in social organization which is the division of labor.

Each of the stages of world history is according to Hegel the presence of a necessary moment in the Idea of the world mind. But the world mind itself is a synthesis a resolution of the conflicting opposites—of the various national minds which are wholly restricted on account of their particularity. Their deeds and destinies in their reciprocal relations to one another are the dialectic of the finitude of these minds and out of it arises the universal mind the mind of the world free from all restrictions producing itself as that which exercises its right—and its right is the highest right of all—over these finite minds in the history of the world which is the world's court of judgment.

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## REFERENCES

To find the passages in text use the number in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HODGKIN *Iliad* BK 1 [265-83] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 1

**PAGE SECTIONS** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Poetry* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 63 and ends in the upper half of the right hand side of page 64.

**AUTHORIAL DIVISIONS** One or more of the main divisions of a work (such as PART BOOK CHAPTER) are sometimes included in the reference line in brackets, as given in certain cases e.g. *Iliad* BK 1 [265-83] 12d.

**BIBLICAL REFERENCE** The reference is to book chapter and verse. When the King James Version is cited first the title of books or in the number of chapters or verses the King James Version is cited first and the Douay version is cited by a (D) follows e.g. *Old Testament Nehemiah* 7 45—(D) *II Esdras* 7 46.

**SYMBOLS** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference. *passim* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Guide to Ideas* consult the Preface.

## 1 Opposition in logic

## 1a Kind of opposition among terms corresponding to contrariety proposition negation

7 PLATO *Protagoras* 49a 50b / *Phaedo* 226d 227a 242d 245c / *Republic* BK V 351b c

8 ARISTOTLE *Categories* CH 16d 19c / *Prior Analytics* BK CH 46 70b 71d / *Topics* BK CH 8 159b 160a K V CH 4 [ 4 35 34 ] 173 d K V CH 6 187a 188c BK V CH 9 201 202a / *Metaphysics* K V CH 2 [ 49-17 ] 523a b [ 10 427-1 2 ] 523d 524a K V CH 1 539 BK X CH 1 [ 46 29-36 ] 571b CH 2 [ 1046 7 ] 571 d K X CH 4 [ 1055 34 8 ] 582b-d BK XI C 3 [ 6 18-8 ] 589b c

19 AQUINAS *Summa Theologiae* PART I Q 1 A 4 103 104b RT I Q 18 A 8 REP 1 699d 700b Q 36 A NS 780 781b

20 AQUINAS *Summa Theologiae* PART II Q 64 A 3 3 68d 69b Q 7 A 6 RE 110b 111b

23 HODGKIN *Leathan* RT I 57b-c

## 1b The analysis of contrariety the kinds of terms which can be contrary contrariety with and without intermediates between extremes

7 PLATO *Lysis* 21b 22b / *Euthydemus* 83d 84a / *Symposium* 163b / *Republic* BK IV 350 351d BK V 372b 373

8 A ARISTOTLE *Categories* CH 5 [ 324-31 ] 8a [ 4 34 ] 8b d CH 6 [ 511-6 18 ] 10 c 7 [ 6 5 9 ] 11b CH 8 [ 511 25 ] 15d H 10 [ 6 1 25 ] 17a c CH 19 d / *Topics* K II H 7 158b-159a BK IV H 3 [ 3 1 124 0 ] 171d 172 K V CH 6 [ 135 7-6 ] 187 b K VI CH 9 [ 4 23 5 ] 201b d / *Metaphysics* K V 7 531c 532b BK V H 10 [ 10 8 5 7 ] 5 9 b K X 3 0 581a 586d BK XI H 3 [ 0 6 18 28 ] 589b CH 6 [ 1063 19-4 ] 592 c 12 [ 1068 26-31 ] 597d [ 0 69 1 5 ] 597d 598a

9 ARISTOTLE *Ethics* K V CH [ 55 8 5 ] 407a

17 P OTRIUS *Sextus Empiricus* TR I 292b 293

19 AQUINAS *Summa Theologiae* T II 48 A 8 1259b-260 PART Q 8 A 8 REP 699d 700b Q 2 A 2 R 721c 722c

(1) *Opposition in logic* 1b *The analysis of contrariness the kinds of terms which can be contrary contrariety is the and unities intermedates between extremes*

20 AQUINAS *Summa Theologica* PART II Q 64 A 3 REP 3 68b 69b

24 RABELAIS *Gargantua and Pantagruel* BK I 12d 13b

53 JAMES *Psychology* 387b

1c The exclusiveness of opposites as a principle of logical division

1c(1) Dichotomous division positive and negative terms

7 PLATO *Phaedrus* 134b // *Sophist* 552b 561d 577c 579d / *Statesman* 580a 608d esp 595a d / *Philebus* 610d 613a

8 ARISTOTLE *Prior Analytics* BK I CH 3 64b 65a / *Posterior Analytics* BK II CH 5 125b d CH 13 [96<sup>b</sup>25-97<sup>b</sup>5] 132a 133a / *Topics* BK VI CH 6 [143<sup>b</sup>11 144 4] 197b c / *Metaphysics* BK VII CH 12 [103<sup>b</sup>8 14] 561d

9 ARISTOTLE *Parts of Animals* BK I CH 2 3 165d 167d

17 PLOTINUS *First Ennead* TR II CH 4 11a c / *Sixth Ennead* TR III CH 8-10 285a 286d

42 KANT *Pure Reason* 43d 44a

1c(2) Division of a genus by differentia the contrariety of species

7 PLATO *Theaetetus* 548c 549d

8 ARISTOTLE *Categories* C I 3 [1<sup>b</sup>16-24] 5d CH 5 [3<sup>a</sup>22 23] 7b-8a / *Posterior Analytics* BK II CH 13 [96<sup>b</sup>25-97<sup>b</sup>6] 132a 133a / *Topics* BK I CH 18 [108 38 39] 152d [108<sup>b</sup>19 32] 153a c BK V CH 3 [123<sup>a</sup>20-124 9] 171c 172c CH 6 [127<sup>b</sup>17] 177a [128<sup>a</sup>20-30] 177d 178a BK VI CH 5-6 196b 199c / *Physics* BK I CH 3 [186<sup>b</sup>14-34] 261c 262a CH 5 [88 18 25] 263c c 6 [89 1-14] 264c [189<sup>b</sup>23 27] 265b / *Metaphysics* BK III B 3 [99<sup>b</sup>21 27] 517c K V II 10 [018 38 37] 539b CH 28 [1024 37 39] 546b c BK VII CH 12 [1037<sup>b</sup>28 1 38 34] 561c 562 BK VII CH 3 [1043<sup>b</sup>24 1 44 14] 568b d CH 6 569d 570d BK V CH 8-9 585b 586c / *Sol* I BK I CH 1 [402<sup>b</sup>15-403 2] 631d 632a

9 ARISTOTLE *Parts of Animals* BK I CH 2 4 165d 168c

17 PLOTINUS *Sixth Ennead* TR III CH I 281a b CH 8 285a 286d CH 18 291a d

20 AQUINAS *Summa Theologiae* RTI Q 3 A 4 RE I 16d 17c A 5 AN 17 18b Q 4 A 2 REP 2 21b-22b Q 29 A I RE 3 162a 163b Q 47 A 257b 258c Q 48 A 3 REP 3 261b 262 Q 75 A 3 REP I 380c 381b A 4 ANS 381b 382a Q 76 A 3 REP 4 391a 393a Q 77 A RE 7 399 401b PART II Q 1 A 3 ANS 611b 612a Q 3 A 5 ANS 626b 627a Q 18 AA 5 10 697a 702a Q 29 A R I 745c

746b Q 35 A 4 771d 775d A 8 ANS and REP 3 779c 780c

20 AQUINAS *Summa Theologica* PART II Q 49 A 2 REP 3 2b 4a Q 52 A 1 ANS 15d III 1 ANS 18a 19a Q 55 A 4 ANS and REP 1 28c 29d Q 61 A 1 REP I 54d 55c Q 7 A 5 ANS 115a 116b A 7 ANS 117a 118a Q 95 A 4 229b 230c PART II Q 21 A 3 REP 2 3 479c-480b PART III Q 2 A 1 ANS 710a-711c

42 KANT *Pure Reason* 193a 200c esp 197b-198a

53 JAMES *Psychology* 344b-345b

1d The opposition of propositions or judgments

1d(1) The square of opposition contradictions contraries subcontraries

8 ARISTOTLE *Categories* CH 10 [13<sup>a</sup>1 35] 19a c / *Interpretation* CH 6 26c d CH 10 29d 31c / *Posterior Analytics* BK I CH 2 [12 13] 98c

20 AQUINAS *Summa Theologica* PART II Q 64 A 3 REP 3 68b 69b

42 KANT *Pure Reason* 64d 65c 156d 157b 174b d

1d( ) Modal opposition the necessary and the contingent

8 ARISTOTLE *Interpretation* CH III 13 32d 35c

31 DESCARTES *Rules* XII 22a b

42 KANT *Pure Reason* 39c 41c esp 40d 41c 193a 200c esp 194b d

53 JAMES *Psychology* 851a 861b

1e Opposition in reasoning and proof the conflict of dialectical arguments the antinomies of a transcendental dialectic

7 PLATO *Euthydemus* 65a 84a c / *Phaedrus* 134b c / *Phaedo* 226d 227a / *Republic* BK IV 350c 351d BK VII 392b 393d / *Parmenides* 491a 511d / *Theaetetus* 525d 526b / *Sophist* 558b d 571d 574c / *Symposium* 594d 595d

8 ARISTOTLE *Prior Analytics* BK I CH 30 [46 3 10] 63d BK II CH 15 84b 85b / *Topics* BK I CH 11 148 // *Sophistical Refutations* CH 9 234b d / *Hermeneutics* BK I CH 10 [279<sup>a</sup> 12] 370d / *Metaphysics* BK XIII CH 4 [107<sup>b</sup> 18 28] 610b

9 ARISTOTLE *Poetics* BK V CH 8 [1307<sup>b</sup>26 20] 509d / *Rhetoric* BK I CH I [1355 28 39] 594c d BK II CH 23 [1397<sup>a</sup>6-18] 645 b [1399 18 28] 647d 648a

19 AQUINAS *Summa Theologica* PART I Q 89 A 3 ANS 477a-478b

20 AQUINAS *Summa Theologiae* PART III Q 9 A 3 REP 2 765b 766b

25 MONTAIGNE *Essays* 446d-449d

31 DESCARTES *Rules* II 2c

35 LOCKE *Human Understanding* BK IV CH XVI ECT 9 369b-c

35 Hume *H man Understanding* SECT X DIV 86-91 488d-491c  
42 KANT *Pure Reason* 1a b 7a 8b 120c 173a esp 133c 174b 177b 187a 192d 200c 209d 219a 220b 229b c 231c 232a / *Fund Prin Metaphysc of Morals* 260d 261b 283d 284d / *Practical Reason* 291a 292 296a d 302a d 307d 308b 331c 337a c 340a 342d 348d 349a / *Science / Right* 407a 408b / *J dge ment* 540a 542a 562a 578a esp 562d 564c, 570b 572b 575b-578a 584c d  
43 M L Liberty 274b-293b passim  
54 FREUD *General Introdu t* 545d

2 The metaphysical significance of oppos ition

2 Opposition as limiting coexistence non contrad ction as a pr nciple of being

7 PLATO *Ph edo* 244b-246c / *Republic* k iv 350d 351b / *Parmen d's* 504c d / *Sophist* 573a 574c  
8 ARISTOTL *Interpretat on* CH 13 [22<sup>b</sup>28 23 26] 34d 35c / *Metaphys cs* BK III CH [99<sup>b</sup>6- ] 514 CH 2 [99<sup>b</sup>26-99<sup>b</sup>15] 515b d BK IV CH 3-6 524b-531c CH 8 532b-d BK V CH 10 [101<sup>b</sup>22 26] 539a BK IX CH 9 [105<sup>a</sup>4 ] 577a b BK XI CH 1 [1059<sup>b</sup>23 6] 587a CH 5-6 590a 592b  
10 AQUINAS *Summa Theol oga* PART I II Q I A 5 REP 3 613a 614a  
20 AQUINAS *Summa Theolog a* PART I II Q 94 A 2 ANS 221d 223a Q I 3 A 7 REP 5 366a 367  
31 S INOZA *Eth cs* PART III PROP 4-5 398d PRO 10 399c d PART V AXIOM I 452  
35 LOCKE *Human Understanding* k iv CH III SE T 15 316d 317a  
42 K ANT *P re c Reas n* 99a 101b 107b c 179c 182b / *Prof Metaphys cal Eleme ts f Ethics* 367d 368a  
43 JAMES *Psychology* 302a esp 302b [fn 1]

2b Oppos tes n the realm of be ng mind or spirit: the one and the many: the dialect ct cal t rad of thes antitheses and syn th sis

7 PLATO *Pha d us* 134b c / *Phaedo* 244b 246c / *Republic* BK III 333b d BK V 368 373c / BK V I 392b-394b / *Pa me d* 486a 511d / *Th t tus* 534d 536a / *Soph t* 561d 577b esp 574d 575a / *Phil bus* 610d-613a 615 617d 634b-635a  
8 ARISTOTL *Interpret t on* CH 13 [22<sup>b</sup>3 23 8] 34d 35a / *Metaphys cs* BK IV CH 522b 524b BK V CH 6 [10 7 3 7] 537c BK X CH 3 581a 586d BK XI CH 3 589 d BK XII CH 0 [ 75<sup>b</sup>75 33] 606a BK XIV CH I 619b d 620d  
11 NICOMACHUS *A thm tic* BK 813d 814b K I 839d 840b  
17 PL TYNUS *Th d E n d* TR II CH 16 17 91b-92 TR I H I 93b-c TR V 119b 129a

TR IX 136a 138a e / *Fif h En ad* 208a 251d esp TR I 203a 214c TR IV V 226d 235b / *Sxth Ennead* TR VI CH I-3 310d 312b TR IX CH I 2 353d 355a  
19 Aq iv *Summa Theologica* PART I Q II A 2 47d 48d Q I 7 A 4 103c 104b  
31 DE CARTES *Discoourse* P RT IV 51b 54b / *M d t t ions* II 77d 81d VI 98c d / *Objections and Repl s* 115a c DEF V-VII 130b-c PROP IV 133c 152b d 155b 231a 232d  
42 KANT *Pu n Reason* 7a 8b 43d 44a 99a 101b 107b-c 133c 173b 177b 197b 198a  
46 HEGEL *Philosophy of Right* INTRO par 26 18b c par 31 19c 20a PART I par 39 21d par 97 37a PART II par 106 40a b par 9-111 41a c PART I P I 256 79d 80a PIR 353 36 112b 114a c esp pa 353 112b-c par 360 113d 114a c ADDITIONS 61 125d 126a 7 127b / *Ph losophy of H story* INTRO 156d 157b 160c 161a 165a b 205d 206a c PART I 235d 236a 237d 238c 245b-d PART II 250b-c 279 280b PART III 286c 287a 305c 306c PART IV 316a b 333d 334d  
53 JAMES *Psychology* 107a b 117b 238b [fn 2]

2c Nonbeing as the opposite of be ng

7 PLATO *Republic* II V 371c 373 / *Parmen des* 507 511d / *Theaetetus* 518a / *Sophist* 561d 577b  
8 ARISTOTL *Physics* BK I CH 5 [188 8- 5] 263c CH 9 [192 2 6] 268a BK V CH I [2 5 20-29] 305b / *M t physcs* BK CH 4 [98<sup>b</sup>3- 0] 503 CH 5 [95<sup>b</sup>25-98<sup>b</sup>1] 504d 505a K IV CH 2 [1003 33<sup>b</sup>11] 522b [ 004<sup>b</sup>27-29] 523d BK VII CH 4 [I 30<sup>a</sup>25-26] 533a BK XI CH 2 [1069<sup>b</sup>27 34] 599a  
17 P OTNUS *Fist E nead* TR VIII 27b 34a / *S c d E n d* TR IV 50a 57 / *Thrd En d* R VI C I 6-7 109d 111c  
18 AUGUSTINE *City of God* BK XII CH 2 343c d  
19 AQUINAS *Summ Th logica* PART I Q 13 A 7 ANS 68d 70d Q 14 A 8 83b-d Q 6 A 3 REP 2 96b d A 5 REP 3 97c 98b Q 17 A 4 REP 2 103 104b Q 104 A 3 REP I 537b d  
20 AQUINAS *Summa Th olo oca* PART I Q 71 A 6 REP I 110b 111b  
31 D CARTES *M d t t ns* V 89c d / *Obj c t sa d Replies* 214d 215a

2d The oppos t on of good and e l in the world nd in r l tion to God

7 P ATO *R public* BK II 322a b / *Th aet et s* 518a 530b 531a / *St tesman* 587a 589c  
8 A ISTOTL *C e or s* CH II [ 3<sup>b</sup>36-14 6] 19c / *M t p ly* BK I CH 4 [981<sup>b</sup>33-985 9] 503a b BK IX CH 9 [105 17 ] 577 b K X K 10 [ 075 34 7] 606a b K X V CH 4 [1091<sup>a</sup>29 9 8] 624a d  
12 E IC TON *D sscu s* K H 118d 120b CH 126 d CH 25 129d 131b CH 29 134d 138a

- ( *The metaphysical significance of opposition*  
 2d *The opposition of good and evil in the world and in relation to God* )

17 PLOTINUS *First Ennead* TR VIII 27b 34a esp c 16 7 29d 30d / *Third Ennead* TR II CH 5 7 85b 86c CH 10 14 88a 89d

18 AUGUSTINE *Confessions* BK III par 11 15d 16a BK IV par 24 25b c BK V par 20 32d 33a BK VII par 3 7 44a 45d par 11 23 47a 50d BK VIII par 22 4 59a 60a BK XIII par 45 123a / *City of God* BK VIII CH 24 283a II BK X CH 21 311c 312a BK XI CH 9 326d 327d CH 18 331d 332a BK XII CH 3 343d 344b CH 6-9 345b 348b A XIV CH 1-5 376b d 380b CH 10 11 385b 387a BK XVI CH 1 586b d 587b / *Christian Doctrine* BK C 1 3 633d 634a BK II CH 3 648a c BK III CH 3 673d 674a

19 AQUINAS *Summa Theologiae* PART I Q 8 A 1 REP 4 34d 35c A 3 ANS 36b 37c QQ 48 49 259b 268a c Q 65 A 1 AV and R P 2 3 339b 340b Q 66 A 3 ANS 347b 348d Q 2 A 1 REP 6 368b 369d PART II Q 18 A 8 R 1 699d 700b Q 36 A 1 ANS 780c 781b

20 AQUINAS *Summa Theologiae* PART II Q 5 A 1 137d 138c PART III SUP L 74 A 1 REP 1 925c 926

21 DANTON *Divine Comedy* HELL VIII [65] X [103] 11c 13b XXV [55 136] 40a 41b PUATORY V [85 1 9] 59d 60c V 1 [108] 64a 65b X [1-30] 68d 69a AR 15 I [03 142] 107b d XI [5 87] 126a b XIV [40-66] 135c d

22 HOBBES *Leviathan* PART II 160d 161

30 BA CON *Ad acaerent Learning* 17d 18

32 MILTON *Comus* 33a 56b esp [414 475] 42b 44a / *Paradise Lost* BK [496 5 7] 122 BK IV [32 04] 153 154b BK V [6 0-904] 183b 195a BK V [519 549] 228b 229a K VIII [3 9 337] 239a b K X [679-719] 262a 264a BK X [84-98] 301a / *Acop gic* ca 395a

40 GON *Decline of F II* 81b c

41 GON *Decline of F II* 230b 330a b

42 KAN *Paical R as* 316 317d

46 HEGEL *Philosophy of History* INTRO 160a PART I 237d 2 8 PART V 346b c

47 GOETHE *Faust* PROLOGUE 7a 9b ART II [ 676-843] 284a 288a

48 MILLER *My Dilemma* 135 145a 171b 370b 372a 409b 410b 414b 419b

52 DOSTOEVSKY *Bothers* Ka m 3 K 120d 126d K XI 308 309a 341a 345

54 FREUD *Civilization and Its Discontents* 790d 791b [fn 1]

21 DANTE *Divine Comedy* PARADISE XXVIII [76-145] 157a d

31 SPINOZA *Ethics* PART I PROP 15 360a 361d PART II PROP 1 2 373d 374a

46 HEGEL *Philosophy of History* INTRO 156d 160a 165a II 205d 206 II PART I 23 d 238c 245b d PART III 306a II

### 3 Opposition in the realm of physical nature

#### 3a The contraries as principles of change

7 PLATO *Symposium* 165c 166b / *Phaedo* 226c 228a 243c 246c / *Republic* BK IV 350d 351b / *Theaetetus* 159d 520b / *Sophist* 563a c / *Lysis* BK X 760a 762b 764c

8 ARISTOTLE *Categories* CH 5 [4 10-19] 8b 9 CH 10 [13 17 37] 18d 19a CH 14 [15<sup>b</sup> 16] 21b c / *Physics* BK I CH 5-9 263a 268d BK II CH I [193<sup>b</sup> 19-22] 270a BK III CH I [ 4

8] 278c BK IV CH 9 [217<sup>a</sup> 20-6] 297a c BK V CH I [224<sup>b</sup> 27 225 12] 304d 305a I [ 34<sup>b</sup> 9] 305d CI 2 [226 23 9] 306d 30 a CH 3 [226<sup>b</sup> 24 34] 307c CI 5 310a 311 CH 6 [230<sup>b</sup> 10-21] 312a [ 30<sup>b</sup> 27 31<sup>a</sup>] 312b c BK VI CH 4 [234<sup>b</sup> 0-21] 316d 317 BK VII C 2 [252 9 11] 336b c CH 7 [260 29-31] 346b c /

*Heat* BK I CH 3 [270 13 23] 361b c CH 4 362a c CH 6 [273<sup>b</sup> 7 21] 364b CH 8 [ 7<sup>a</sup> 13] 34] 368b c CH 12 [283<sup>b</sup> 7 3] 375 d BK IV 399a 405 c / *Generation and Corruption* BK I CH 3-5 413c 420b CI 7 421d 423b BK II CH 1-5 428b d 433d esp CH 4-7 431b-433d /

*Metaphysics* BK I H 8 [949 18 9] 507b c BK II CH 2 [994 19-36] 512c d BK IV CH 7 [1011<sup>a</sup> 29 38] 531d BK VIII CH 5 569b d BK IX CH 9 [1051 5 13] 577a BK X CH 7 [105<sup>a</sup> 16-31] 584c d BK XI CH 9 [1065<sup>b</sup> 5 14] 593d 594a CH II 596 d BK XII CH 3 598c 599d 10 [ 75 25 34] 606 / *Soul* XI CH 4 [416 18-38] 646 d / *Local Motion* CH 2 3 710b 711b

9 ARISTOTLE *Generation of Animals* BK I CH 8 [ 24 0-13] 264b d BK IV CI 3 [768<sup>a</sup> 11 309c / *Ethics* BK VIII CH I [ 755<sup>a</sup> 8] 407a CH II [1559<sup>b</sup> 19-23] 411d

10 GLEN *Natural Faculties* BK I CH 2 167b d

11 NI O BACHUS *Arithmetic* BK I 813d 814b BK II 839d 840b

14 PLUTARCH *Agassides* 482c

17 PLO NUS *The First Ennead* TR VI CH 8 111c d / *Seventh Ennead* TR III CI 2 293d 294c CH 27 296b 297a

19 AQUINAS *Summa Theologiae* PART I Q 3 A 1 3 132 133b Q 58 A 7 EP 3 305c 306b Q 6 A 7 R 1 322d 323b BK XVI Q 18 A 8 RE 1 699d 700b Q 23 A 2 724c 725c

28 HARVY *On Animal Generation* 408c d

31 SNOA *Ethics* PART II I O 4-6 39 d 399 PART IV PROP 9-35 431d-434a PART V AXIO I 45

399 PART IV PROP 9-35 431d-434a PART V AXIO I 45

399 PART IV PROP 9-35 431d-434a PART V AXIO I 45

399 PART IV PROP 9-35 431d-434a PART V AXIO I 45

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399 PART IV PROP 9-35 431d-434a PART V AXIO I 45

399 PART IV PROP 9-35 431d-434a PART V AXIO I 45

399 PART IV PROP 9-35 431d-434a PART V AXIO I 45

- 42 HUNT *Pa & Reason* 27a 6c 83b esp 76c d  
91d 93c  
46 HZ EL PH to phy of H no 3 INTRO 160c d  
165a b 178a d 179b d

3b Contrariety of quality in the theory of the elements or humours

- 7 PLATO *Symposium* 155d 157a / *Timaeus*  
462b 464b  
8 ARISTOTLE *Phys* c1 BK IV CH 9 [317<sup>20</sup>- 6]  
297a / *H & ent* BK II CH 3 [286<sup>2</sup> 28] 377d  
/ *General on Corrupt* on BK II CH 1 3  
428b d 431a CH 7 [334<sup>18</sup> 30] 435d 436b /  
/ *M & phy* c1 BK I CH 8 [98<sup>9</sup> 18- 9] 507b c  
/ *Sense and the Sensitive* CH 2 7 674a 689a c  
passim  
9 ARISTOTLE *Parts of Animals* BK II CH 7  
177c 179a BK III CH 7 [670<sup>18</sup> 25] 199b BK  
IV CH 2 [677<sup>3</sup> 61] 206d 207b / *Gen & on*  
/ *Animals* BK IV CH 2 [657<sup>8</sup>-766<sup>25</sup>] 306d  
308a

- 10 H POGRATES *Ancient Medicine* par 13 20  
4 7d

- 10 GALEN *Natural Faculties* BK III CH 8-9  
192b 199a c

- 12 LACRETIVUS *Nature of Things* BK V [380-  
45] 66a c

- 13 AQUINAS *Summa Theologica* PART I Q 66  
A 2 ANS 345d 347b Q 91 A 1 AN and REP 3  
484a 485b

- 28 HARKNEY *On Anim & General on* 435b c

- 30 BACON *No um Organum* BK I APR 66  
114d 115a

3c The opposition of motion and rest and of contrary motions

- 7 PLATO *Cashu* 112b / *Republic* BK IV 350d  
351b / *Timaeus* 453b c 460c d / *Soph* c  
367a 574c / *Statesman* 587a 589c esp 587a b

- 8 ARISTOTLE *Categorie* I 14 [157<sup>1</sup>-16] 21b c  
/ *Phys* BK V CH 5-6 310a 312d / *Hea* n  
/ *Phy* BK IV CH 4 352a c / *Metaphys* BK IV CH 2  
[1004<sup>18</sup> 30] 523d BK XI CH 12 [1068<sup>19</sup>-25]  
597c d / *Sul* BK I CH 3 [406 22 27] 635c

- 10 GALEN *Natu & Facult* I BK I CH 1 167b d

- 11 N COMARUS *A thmet* c BK II 832c

- 16 COERNICUS *Revolut* n of sh H amenty  
Spher BK I 517b 518a 519b 520b

- 10 KEPLER *Epit* m BK IV 931b

- 17 PLOTINUS *Sia* *Enad* TR II CH 24  
295b CH 27 296b 297a

- 19 AQUINAS *Summa Theologica* PART I Q 10  
A 4 REP 3 43b 44b Q 18 A 1 REP 2 104c  
105c Q 53 A 3 ANS 283b 284d Q 73 A 2  
ANS 371b d PART I II Q 6 A 1 644d 646a

- Q 4 647b 648a Q 9 A 4 RE 2 660a d Q  
4 A 3 799c 800b

- 20 AQUINAS *Summa Theologica* PART III SUPPL.  
Q 75 A 3 ANS and REP 3-5 938a 939d Q 84  
A 3 RE 2 983d 989b

- 21 HOE = *Levathan* PART I 50a

- 28 G LERT *Loadston* BK 26a b BK VI 110b

- 30 BACON *No um Organum* BK II APR 35 163a

- 31 SPINOZA *Eth* c1 PART II ANION I 378c

- LE III c 3 378c 379a

- 34 NEWTON *Prncpl* DEF III 5b LAW I 14a

3d The opposition of physical forces and its resolution

- 11 ARCHIMEDES *Equilibrium of Plan* BK I  
POSTULATES-PROP 7 502a 504b

- 16 KEPLER *Epitome* BK V 969a 972a

- 20 AQUINAS *Summa Theologica* PART III SUPPL.  
Q 84 A 3 REP 2 3 985d 989b

- 28 G LERT *Loadston* BK I 11b 12d BK II  
38a 39b 52d 54d 59a d BK III 65a 67a

- 28 G LERT *T v New Sciences* THIRD DAY  
209a 210a 224d 225c FOURTH DAY  
243d 249b passim

- 34 NEWTON *Prncpl* COROL II 15a 16b BK  
I PROP 57-69 111b 130b

- 45 LAVOISIER *Elements of Chemistry* PART I  
9a 12d

- 45 FARADAY *Researches in Electricity* 691b 692a  
788c 793c 817a b

- 51 TOLSTOY *War and Peace* BK XII 570d  
EPILOGUE I 678a b

- 53 JAM S *Psychology* 105a

3e The struggle for existence the competition of species

- 6 HERODOTUS *History* BK I 112d 113b

- 7 PLATO *Prlogo* as 44c 45a

- 9 ARISTOTLE *History of Animals* BK IX CH I  
[608<sup>19</sup>]-CH 2 [610<sup>20</sup>] 134a 136b

- 36 SW T *Gull* c1 PART I 79a 80a

- 38 ROUSSEAU *Inequality* 324b d 337d 348d  
349d

- 39 SUTHERLAND *Walth of Nature* BK I 34a

- 42 HUNT *Judgement* 584d 585c

- 49 DAVIN *Organ of Sp* c1 7b 32a 39a c  
esp 32d 33b 36a 38a 49d 51d passim 52d  
53b 182d 233d 234a / *Descent of Man*  
328b c 596c

- 54 FREUD *General Introduction* 573 592b /  
C I at a and It D content 791c d

4 Opposition or conflict in the psychological and moral order

4a The conflict of reason and the passions

- 5 EPICTETUS *Hippolyte* [373 43] 122b d

- 7 PLATO *Phaedrus* 120b c 128a 129c / *Phaedo*  
224a 226 230d 234c / *Republic* BK IV  
346a 355a p 350c 353d BK IV 416a c  
425c 427b / *Leu* BK VIII 735b 738b

- 8 ARISTOTLE *Sul* BK III CH 10 [433<sup>5</sup> 1]  
666b CH II [434 10-25] 666d 667a / *Ment* y  
and *Rema* n n 2 [453<sup>25</sup> 3] 695 d

- 9 ARISTOTLE *M* t n f *A* mal CH 39 d  
/ *Eth* BK CH 13 [102<sup>13</sup> 28] 348 BK  
I CH I [1 35 64] 337b BK I 395a 406a c

- / *Folia* BK CH 5 [286 17 0] 484b c  
[186 33 37] 484d



(4 *Opposition or conflict: the psychological and moral order* 4a *The conflict of reason and the passions*)

12 LUCRETIVS *Nature of Things* BK III [307-32] 34a b

12 LUCRETIVS *De seculis* BK II CH 18 161a 162b

12 AURELIUS *Meditations* BK II SECT 5 257b c  
SECT 10 257d 258a SECT 16 17 259a d BK  
III SECT 4 260b 261a SECT 12 262b c BK V  
SECT 8-9 269d 270c BK II SECT 55 283b c  
SECT 68-69 284c d BK III SECT 39 288c

13 VIRGIL *Aeneid* BK I 167a 186b

18 AUGUSTINE *Confessions* K VI PART 8 2640d  
43a BK VIII PART 10 24 55c-60a / *City of God*  
BK IV CH 3 190a c BK XIV CH I-5 376b d  
380b CH 10-11 385b 387a BK XIX CH 15  
521a e

19 AQUINAS *Summa Theologica* PART I Q 81  
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25 MONTAIGNE *Essays* 5a 6c 20d 22a 36c 41a  
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4b *Conflicting emotions humours instincts*  
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8 ARISTOTLE *Metaphysics* BK IX CH 5 [1045  
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20 AQUINAS *Summa Theologiae* PART II Q 53  
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21 DANTE *Divine Comedy* PARADISE IV [1 7]  
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22 CHURCH *Wife of Bath's Prologue* [6 8-  
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 46 HEGEL *Philosophy of Right* INTRO par 17 16c ADDITIONS 13 118r  
 47 G ETHE *Faust* PART I [354 429] 11a 12b (106a 117) 26b 28a [1322 1706] 32b-41a [3217 3250] 79a B [3469-3501] 84b-85a  
 49 DARWIN *Descent of Man* 311a 314b passim esp 311a b 312d 313a 318c 319a  
 50 MARX *Capital* 293c 294a  
 51 TOLSTOY *War & Peace* x iii 120a BK VI 235a 238c 247d 249a 265d 266b BK VII 292b 296a x viii 338a 339c BK XII 560a 562d  
 52 DOSTOEVSKI *Brothers Karamazov* BK IV 95b 100c BK VII 200c 201c  
 53 JAMES *Psychology* 704b-706b 717a 718a 720b 729b 734b 735b  
 54 FARUD *Narcissism* 401b-c / *Instincts* 414d 421a / *General Introduction* 590a 93b 615b 616c / *Beyond the Pleasure Principle* 640c 651d 654c esp 653c d 659b d 663c / *Group Psychology* 677c 678c / *Ego and Id* 708d 712a esp 709c 710c / *War and Death* 758b 766a b / *Civilization and Its Discontents* 789c 791d / *New Introductory Lectures* 846b 851d  
 4c Conflict is the cause of repression and as a factor in neurotic disorders  
 54 FRAUD *Origin and Development of Psychoanalysis* -9a p 7-c 8a b / *Hysteria* 65c d 81d 84a esp 82c 117a / *Interpretation of Dreams* 370b 377b-382a x p 380a b 381d 382a / *Narcissism* 406d-407 / *Repression* x 422a-427a c passim esp 424b-d / *General Introduction* 566a 569c esp 568d 569b 589c 591d 593d 594c 611 623b esp 614c 615 616b-c 623d 624d esp 624c d 626d-627b 633d 635 / *Beyond the Pleasure Principle* 640c d / *Group Psychology* 690a 691c esp 691a / *Ego and Id* 704d 712b 715a passim / *Inhibitions Symptoms and Anxiety* 718a 754a x passim esp 719b 720 722d 724b 725a 726b 731c d 746 747b 750a-d  
 4d The conflict of love and loyalties desres and dtes  
 OLD TESTAMENT *Genesis* 4:1 16:2 1:12 / *Judges* 11:30-40 / *Ruth* 1:11 / *Samuel* 11:13 -(D) 11:18 1:13 / *1 Kings* 11:13-(D) 11:18 1:13  
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 NEW TESTAMENT *Matt* 10:31 22:10 34 37 1:46-50 26:4 / *Mk* 14:38 / *Romans* 6:12 14 7-8 13 3-14 / *Galatians* 5:16-6 / *Philippians* 1:21 26 / *James* 1:17 4:1-2 / *1 Peter* 2:11  
 4H HE *Iliad* BK VI [369-50] 43d-45a  
 5 AESCHYLUS *Saten Against Thebes* [1011 1084] 38b 39d / *Aemion* on [184 247] 54a c / *Choephoroe* [885-930] 78d 79b  
 5 SOPHOCLES *Antigone* 131a 142d esp [1-99] 131a 132a [16 210] 132c d [441 470] 134d 135a / *Philoctetes* 182a 195a x esp [89-1292] 190a 193c  
 5 EURIPIDES *Hippolytus* [373 430] 228b d / *Phoenician Maids* [1625-1746] 392b 393c  
 5 ARISTOPHANES *Lysistrata* 583a 599a c esp [706-780] 592b 593b [1072 1185] 596d 597d  
 6 HERODOTUS *History* BK VI 197a b 201d 202c BK VII 223c d  
 7 PLATO *Symposium* 153b 157a / *Laws* BK VIII 737a c  
 12 LUCRETIUS *Nature of Things* BK IV [121-114] 38d 59a  
 12 CRISTIANUS *Discourses* BK IV CH 2 223d 224b  
 12 VIRGIL *Aeneid* BK IV [333-361] 176 177a  
 14 PLUTARCH *Poplicola* 77d 79c / *Fabius* 152b d / *Coriolanus* 189d 191c / *Timotheon* 196b 198b / *Agrippa* 634c 635a  
 17 PLOTINUS *Third Ennead* x d TR V CH I 100c 101c  
 20 AQUINAS *Summa Theologiae* PART II II Q 24 A 12 499c 500d  
 21 DRYDEN *Divine Comedy* PU GATORY x [70-93] 68a b  
 22 CHAUCER *Troilus and Criseyde* K IV 88b 120 esp TANZA 76-92 98b 100b STAN A 2 3 229 117b 118b / *Franklin's Tale* 351b 366a esp [1 767 854] 363b-365a  
 23 HO *Lexanthan* P RT III 240a 245c 246a c  
 5 MONTAIGNE *Essays* 200d 205b 381 385 467b-470a 486b 488b  
 26 SHAKESPEARE *Two Gentlemen of Verona* ACT II c v [192 214] 238b sc vi 239a c ACT II s i [1-21] 240 / *Love's Labour's Lost* ACT IV SC III 268b 272c / *Rome and Juliet* 285a 319 x esp PROLOGUE 28 a b ACT II SC II [64 131] 303d 304c sc v 307a 309d / *Richard II* ACT V SC II [85 117] 347b-c c III [3 146] 348a 349c / *Midsummer Night's Dream* ACT I SC I [1 127] 352d 353d / *Much Ado About Nothing* ACT II SC I [82 189] 509a b / *Julius Caesar* ACT I SC II [11-44] 583d 584a  
 27 SHAKESPEARE *Troilus and Criseyde* 103 141a c esp ACT V c i v 126d 129d / *Othello* ACT I SC III [175 89] 210d 211 / *Much Ado About Nothing* ACT I SC V [1 23] 289b / *Antony and Cleopatra* 311a 350d esp ACT I SC II [9 204] 313b 314c / *Cymbeline* ACT IV SC II-III 377d 379a  
 29 CERVANTES *Don Quixote* PART I 120b 137d  
 30 BACON *Advancement of Learning* 24b  
 32 MILTON *Samson Agonistes* [843-870] 358a B [1003 7] 361b  
 33 PASCAL *Pensées* 4 193a  
 37 FIELDING *Tom Jones* 77 78b 79d 80b 126c 127c  
 42 KANT *Fund Prin Metaphysic of Morals* 259a

(4) *Opposition or conflict in the psychological and moral order* 4d *The conflict of loves and loyalties desires and duties*)

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49 DARVIN *Descent of Man* 310d 314c 318d 319a

51 TOLSTOY *War and Peace* BK I 273c 274a c BK VII 291a 292b 301b 302d BK III 327a 329c BK IV 365d 366a BA XI 490a-493d 520a 521b EPILOGUE I 669b

52 DOSTOEVSKY *Brothers Karamazov* BK III 58d 59a BK V 95b 100a BK VI 282b-283c EPILOGUE 402a-404c

53 JAMES *Psychology* 199b 201b 293b 791a 798b passim 824a b

54 FREL *General Introduction* 452c d 467b-476 c passim esp 472d-475a / *Group Psychology* 694c 695b / *War and Death* 757c 759d 764d 766d / *Civilization and Its Discontents* 780d 781d 783c 789b esp 783c 784d 788d 789a 792a 802a c passim / *New Introductory Lectures* 853a b

4e *Conflict in human life opposed types of men and modes of life*

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APOCRYPHAL *Ecclesiastes* 33 10-15 esp 33 14—(D) *OT Ecclesiastes* 33 0-15 esp 33 15

NEW TESTAMENT *Matthew* 5:7 25 / *Mark* 4:1 20 / *Luke* 8:4 15 / *Acts* 6:19-23 / *Romans* 6:12 14 7:8 13 13 14 / *Ephesians* / *1 Thessalonians* 3:11 4:11—(D) / *1 Thessalonians* 3:11-4:11 / *1 Timothy* 5:5-6 / *1 Timothy* 3 / *Hebrews* 11:24 26 / *1 Peter* 2:1 5:11 esp 12

4 *Homer Iliad* BK III [19 224] 20d 21b

5 EURIPIDES *Ion* [585 647] 287d 288b / *Hippolytus* 225a 236d

5 ARISTOPHANES *Clouds* [882 114] 499b 502b

6 HERODOTUS *History* BK VII 232d 233d 253b 254a BK VII 264 BK IX 305d 306a

6 THUCYDIDES *Peloponnesian War* BK I 366b 367a BK I 396d 397a

7 PLATO *Phaedo* 223d 225a / *Republic* K I 308b 309b BK II 340b 341a BK VIII IX 401d-427b / *Theaetetus* 528 531a / *Statesman* 605d 608d / *Phaedrus* 609a 639a / *Lysis* BK V 690a-c / *Socratic Letter* 806a 806d

9 ARISTOTLE *Ethics* BK I CH 5 340d 341b BK II CH 3 350a c BK VII CH 14 [154<sup>b</sup> 0-30] 406 BK X 17-8 431d 434a / *Rhetoric* BK II CH 12 17 636a 639a

10 H. POETRY *As You Like It* *Plays* par 12 24 14b-19a c

12 LUCRETIUS *On the Nature of Things* K II [-61] 15a d BK I [59 86] 30d 31b [830- 94] 40c 44 c BK V [11 5 1135] 75c d BA VI [1 41] 80 d

12 EPICTETUS *Discourses* BK I CH 3 108b-c CH 29 134d 138a BK I CH II 150a 151b BK

III CH 10 185d 187a CH 15 190a 191a CH 22 195a 201a BK IV CH 6 230b 232 CH 8 235b 237d

13 VIRGIL *Aeneid* BK IV [590-6 0] 29a b

14 PLUTARCH *Themistocles* 99b-c / *Marius* 254c 256b / *Demetrius* 726a d

17 PLOTINUS *First Ennead* TR III CH I 3 10a 11a / *Fourth Ennead* TR IV CH I 8 166d 16 b / *Fifth Ennead* TR IV CH I 2 246c 247b

18 AUGUSTINE *Confessions* BK X par 39 81b-c / *Christian Doctrine* BK III CH 14 663c-d

19 AQUINAS *Summa Theologica* PART I Q 9-488d-491d Q 93 A 4 REP I 494c-495b Q 96 AA 3 4 512a 513c Q 99 A 2 520a-d Q 111 A 1 REP 3 571d 573a Q 113 A 2 REP 3 56d 577d Q 115 A 3 REP 4 588c 589c P 114 Q 8 A 1 REP 1 2 655b 656a Q 19 A 10 A 1 and REP 10 CONTRARY 3 710b 711d Q 46 A 1 A 2 and REP 1 815d 816d

20 AQUINAS *Summa Theologica* PART II Q 27 A 7 506a d Q 29 A 3 REP 2 531d 532c Q 37 42 570c 584d Q 1,9 606a-607c P 11 III SUPPL. Q 81 A 3 966a-c Q 82 A 3 REP 4 971a 972d Q 96 A 11 1063d 1064d

22 CHAUCER *Prologue* 159a 174a / *Tale of Melibeus* par 30-31 413b-414a

23 MACHIAVELLI *Prince* CH VIII 25a b

23 HOBBS *Leviathan* PART I 66d-67a 84c d PART II 154a 155d CONCLUSION, 279a-c

24 RABELAIS *Gargantua and Pantagruel* BK I 62b 63c BK III 189c 191a

25 MONTAIGNE *Essays* 43d-47a 91d 98b esp 93b 94a 103c 104a 150c 151a 159a 160c 167a 169a 200d 205b 235a 236a 278a 279c 281a 284c 318a 319b 326b 32 d 406a-408b 445a c 446a 450a 458b-c 492b-493a 524b d 528c 529b

26 SHAKESPEARE *Love's Labour's Lost* ACT I SC I [1 162] 254a 256a / *Midsummer Night's Dream* ACT I SC I [67 78] 353a b / *Merchant of Venice* 406a-433d esp ACT I SC I [4 44] 406d-407b SC III 409c-411b ACT III SC I [1 6] 419a b / *1st Henry IV* 434a-466d esp ACT I SC III 437d-440d / *2nd Henry IV* 467a 502d esp ACT IV SC IV V 492d-496d / *Much Ado About Nothing* ACT I SC III [1 41] 506d 507a ACT II SC I [3 15 363] 510d / *Julius Caesar* ACT I SC II 569b 572c / *As You Like It* ACT I SC I [20] 603c d ACT IV SC I [1 41] 617 c

27 SHAKESPEARE *Twelfth Night* ACT I SC II 11 IV 8c 11d / *Hamlet* 29a 72a c esp ACT II SC I [575-616] 46b c ACT III SC I [56-90] 47c d SC II [58 79] 49c d [360 389] 52d 53 A 1 IV SC IV [32-66] 59a c / *Troilus and Cressida* 103a 141a c esp ACT I SC I [17-54] 108b c ACT II SC I 112b 115d / *Othello* ACT I SC III 208d 213a / *Antony and Cleopatra* 311a 350d esp ACT I SC IV 315d 316d / *Coriolanus* ACT IV SC VII [27-57] 384c d / *Timon of Athens* ACT I SC I [175 293] 39c 396d ACT IV SC III [197 399] 413 415a

29 CERVANTES *Don Quixote* P P RT I 49c 50b 113b 115d 145b 147d PART II 228a d

- 30 BACON *Advancement of Learning* 18a b  
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- 31 SPINOSA *Ethics* PART III IV 395a-450d pass m
- 3 MILTON *Paradise Lost* K II (490-505) 122a
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- 36 SWIFT *Gulliver* PART I 21b 23
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- 40 GIBBON *Decline and Fall* 89d 191c 194a  
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- 43 M L *Liberty* 290a 291d 293b 302c 303d  
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- 46 HEGEL *Philosophy of Right* PART I par 39  
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- 47 GOETHE *Faust* PRELUDE [33] PART I [4 3]  
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- 48 MELVILLE *Moby-Dick* esp 39b 40a 79a 82a  
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- 49 DICKINSON *Scent of Man* 318d 319a
- 50 MARX ENGELS *Communist Manifesto* 415a  
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- 51 TOLSTOY *War and Peace* K I 15a b K III  
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- 52 DICKINSON *Beths* K ama ov c p BK I-  
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- 54 FREUD *Interpretation of Dreams* 246c 247c  
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- 56 Competition in commerce and rivalry  
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- 9 ARISTOTLE *Ethics* BK IV CH 6 420c-421a /  
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- 14 PLUTARCH *Solon* 68d 75 d / *Pericles*  
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- III TACITUS *Annals* BK VI 97b c / *Histori* s  
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- 23 MACHIAVELLI *Prince* CH IX 14c d
- 23 HOBBS *Leviathan* PART II s 103d 104a  
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- 25 MONTAIGNE *Essays* 42a b
- 26 SHAKESPEARE *1st Henry VI* 1a 32a / *2nd*  
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- 39 SMITH *Wealth of Nations* BK 23c 27b esp  
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- 40 GIBSON *Decline and Fall* 652b 655c
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- 50 MARX ENGELS *Communist Manifesto* to 425b
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- 5 EURIPIDES *Supplicians* [9-45] 260b c
- 6 HERODOTUS *History* BK VI 203a b K II  
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- 7 PLATO *Republic* K IV 343c d K VIII  
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- 5 *Conflict in society and history* 5b *The class war the opposition of the rich and the poor the proletariat and the propertiless capitalist and labor producers and consumers*
- 9 ARISTOTLE *Politics* bk ii ch 6 [1265<sup>b</sup> 12] 461a ch 7 461d 463c ch 9 [1269<sup>a</sup> 33<sup>b</sup> 12] 465c d bk iii c i 10 [1281 ii-29] 478d 479a bk iv ch 4 489b-491d *passim* esp [1290<sup>a</sup> 30<sup>b</sup> 0] 489b d [1291<sup>b</sup> 5 13] 490d ch ii 12 495b 497b bk v ch 3 [1303<sup>b</sup> 5-8] 505a ch 4 [3 4<sup>b</sup> 1-6] 506a ch 5 [1304<sup>b</sup> 18]-ch 6 [1305<sup>b</sup> 22] 506b 507c ch 7 [306<sup>b</sup> 22 1307 2] 508c d ch 9 [1310 19 25] 512c ch 10 [1310<sup>b</sup> 9 15] 512d 513a ch 12 [1316 39<sup>b</sup> 42] 519c d / *Athenian Constitution* ch 2-6 553a 555c
- 11 PLUTARCH *Lycurgus* 36a 37c / *Solon* 68d 71c / *Camillus* 117c 121a c / *Coriolanus* 176b 184c / *Agis* 648d d 656d / *Tiberius Gracchus* 674c 681a c / *Caius Gracchus* 681b d 689a c
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For Other considerations of the opposition of terms and propositions or of opposition in reasoning and argument see DIALECTIC 3b-3d IDEA 4c JUDGMENT 7a NECESSITY AND CONTINGENCY 4c(1) REASONING 5c SAME AND OTHER 3a(2)  
The distinction between dichotomous division and the differentiation of a genus as methods of definition see DEFINITION 2a-2b  
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Conflict in human nature and the life of man see DESIRE 3d 4a DUTY 6 8 EMOTION 4a LOVE 3c MAN 5-5a MIND 9b ONE AND MANY 3b(5) and for conflict in society and history see DEMOCRACY 5b(4) LABOR 7c-7c(1) NECESSITY AND CONTINGENCY 5d PROGRESS 1a REVOLUTION 5a STATE 5d-5d(2) WAR AND PEACE 2c 7 WEALTH 4f

## ADDITIONAL READINGS

Listed below are works not included in *General Bibliography of the Western World* but relevant to the ideas and topics with which this chapter deals. These works are divided into two groups:

I Works by authors represented in this collection

II Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Reading which follows the last chapter of *The General Bibliography*.

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## Chapter 66 PHILOSOPHY

### INTRODUCTION

THE difficulties which attend the consideration of any great idea—by philosophers or others—appear with peculiar force in the traditional discussion of philosophy itself. The word philosophy not only varies in its descriptive significance, now designating one part of learning, now another, and sometimes even an attitude of mind or a way of life, but it also varies as a term of evaluation. It is seldom used without expressing either praise or dispraise of the methods and accomplishments of philosophy or of the calling and character of the philosopher.

On the descriptive side the meaning of the word ranges from a conception of philosophy which covers *all* branches of scientific knowledge and which contrasts philosophy with poetry, history, and religion, to a conception of philosophy in which the primary point is its contrast to science and its association with poetry and religion as works of vision, speculation, or belief rather than of knowledge.

On its evaluative side the word philosophy sometimes eulogizes the love and search for truth, the pursuit and even the attainment of wisdom. At the other extreme it derogates vain learning, idle disputation, and the dogmatism of unsupported opinion. At one time the good name of the philosopher stands in contrast to the questionable reputation of the sophist. At another philosopher carries almost the same invidious connotation as sophist. The dismissal of philosophy as useless or at best ornamental in the practical affairs of society is sharply opposed to the vision of an ideal state which can come to pass only if philosophers are kings or kings philosophers.

THESE SHIFTS in the meaning of the words philosophy and philosopher record crises in the history of western thought. They reflect

the characteristic formations of our culture in its major epochs.

The great books of antiquity, for example, seem to give no intimation of a division between science and philosophy. Particular bodies of knowledge, such as physics or mathematics are indifferently regarded as sciences or branches of philosophy. The crown of knowledge is wisdom, approached as one rises in the hierarchy of knowledge to the highest science or the first philosophy. Aristotle and Plato may disagree in naming or defining the type of knowledge which deserves to be called wisdom, yet for both it is the ultimate attainment of philosophical inquiry or scientific work.

The differences between Plato and Aristotle discussed in the chapters on *DIALOGUE* and *METAPHYSICS*—the one using dialectic as the name for the supreme form of knowledge, the other using theology to name the summit of the sciences—do not affect their agreement that the philosopher is a man of knowledge, not opinion, and that his ultimate goal is wisdom.

If there is any distinction in antiquity between science and philosophy, it seems to find expression in the sense in which Socrates speaks of philosophy as the love of wisdom, an *eros* living thereby its pursuit rather than its attainment. A man would not be called a scientist in a particular field—mathematics, let us say—unless he actually had some mathematical knowledge, but a man who is not actually wise can be called a philosopher by virtue of his effort to become wise. Apart from this point of distinction, the Greeks tend to identify philosophy with the fundamental sciences, which somehow yield speculative or practical wisdom.

Considering the whole of human learning, all its arts and disciplines, we see that the things the ancients distinguish from philosophy are poetry, history, and the particular productive

arts or crafts. Here again Plato and Aristotle do not make the distinction in the same terms. Plato compares the poet unfavorably with the philosopher in the *Republic*. The poet is an imitator of imitations and moves on the level of images and beliefs whereas the philosopher rises above the imagination to the level of ideas which are the only true objects of knowledge. Aristotle on the other hand seems to pay poetry a compliment when in the *Poetics* he says that it is more philosophical than history because it deals with the universal rather than the particular. These attitudes toward poetry in relation to philosophy are somewhat reversed by the fact that for Plato myth and poetry provide materials from which philosophical insights can sometimes be distilled whereas for Aristotle sense experience is the source from which by induction the principles or axioms of philosophical knowledge are obtained. Despite these differences their accord on the supremacy of the philosopher remains unaffected.

More than poetry and history—and all the knowledge that can be applied productively—philosophy represents the highest use of man's faculties. On this Aristotle and Plato seem to be agreed even though Aristotle distinguishes the philosophical from the political life and assigns the most perfect happiness to the contemplative activity of the philosopher whereas Plato—in the *Republic* at least—brings the philosopher back to the shadows of the cave after he has seen the light of truth itself so that he can put his wisdom to practice in the government of his less fortunate fellow man.

THE PRACTICE of philosophy seems to become for the Roman writers more important than the content of philosophy as a body of doctrine.

What is that which is able to conduct a man? asks Marcus Aurelius. One thing and only one philosophy. It keeps the inner man free from violence and unharmed superior to pains and pleasures doing nothing without a purpose. It enables him to accept all that happens and all that is allotted and finally to wait for death with a cheerful mind as being nothing else than a dissolution of the elements of which every living being is compounded. To Aurelius his imperial court is like a step-mother to whom one must be dutiful philosophy

like a mother from whom one gains solace and help. Return to philosophy frequently and repose in her he tells himself so that what thou meetest with in the court appears to thee tolerable and thou tolerable in the court.

The Stoic conception of philosophy as a moral discipline and as a consolation creates that sense of the word in which the familiar injunction to a person in distress—Be philosophical—carries the same meaning as Be stoical. Philosophy provides only peace of mind not worldly riches or external power. Philosophy does not promise to secure to man anything outside himself says Epictetus. Nor does it fulfill its promise of inner strength without stern resolution to withdraw desire from the goods of fortune.

Do you suppose that you can be a philosopher if you do as you do now? Epictetus asks. Do you suppose that you can eat and drink as you do now and indulge your anger and displeasure just as before? No you must sit up late you must work hard conquer some of your desires. When you have carefully considered these drawbacks then come to us.

If you are willing to pay this price for peace of mind freedom tranquility Do not try to be first a philosopher then a tax collector then an orator then one of Caesar's procurators. These callings do not agree. You must be busy either with your inner man or with things outside that is you must choose between the position of a philosopher and that of an ordinary man.

There seems to be no difference between the Stoic and Epicurean conception of philosophy. Lucretius praises Epicurus thanks to whom sweet solaces of life soothe the mind for as soon as his philosophy begins to proclaim aloud the nature of things the terrors of the mind fly away.

But for Lucretius philosophy achieves this boon not merely by curbing the passions and quieting desires but also and primarily by the truth of its teachings about the constitution of the world and the causes of things. Nor is it merely that the philosophical mind is able to dwell in the calm high place finally on the heights by the teaching of whence you can look down on



them wandering hither and thither going astray as they seek the way of life. Philosophy provides a more specific remedy for the deepest of human ills by freeing the mind from the close bondage of religion.

Men fear the thunderbolts of the gods, their intervention in the course of nature and human affairs, and the punishments of the after life. Before Epicurus taught them the mortality of the soul and the atomic determination of all things, the life of man lay foul to see and grovelling upon the earth, crushed by the weight of religion. His teaching concerning what can come to be and what cannot, and in what way each thing has its power limited, ends the mind of the terrors fostered by religion. This darkness of mind must needs be scattered by the outer view and the inner law of nature.

EXCEPT FOR Lucretius, the triumph of philosophy over religion does not seem to be central to ancient conceptions of philosophy's contribution to the mind and life of man. In the pagan world, religious belief is either combined with philosophy to constitute the worship of the gods, which seems to be Plato's view in the *Laws*, or it represents the superstitions of the ignorant as opposed to the sophistication of the educated. Gibbon describes the rift between religion and philosophy not as a matter of intellectual controversy, but as a division of society into classes lacking or having the benefits of education—or what is the same in the ancient world, instruction in philosophy.

But in the mediaeval world, the distinction between philosophy and religion seems to be essential to the consideration of the nature and value of philosophy. The importance of the distinction appears alike in the great books of the Christian tradition and in the great writings of the Mohammedan and Jewish cultures—in Augustine and Aquinas, Avicenna, Averroes, and Maimonides—though the problems of philosophy's relation to religion and theology may be quite differently solved by each. In all three religious communities, secular learning and sacred doctrine are set apart by their origin—the one from the efforts of human reason, the other from the word of God as revealed to the faithful. Even when it is held in highest esteem as the best achievement of secular learning, phi-

losophy is for the most part regarded as inferior to the teachings of religion.

There are those—the simply religious, the devout, the mystical—who abominate the pretensions of reason and the vanity of philosophers who claim either merit or need for any knowledge beyond the truths which God himself has revealed. This position is expressed by such Christian writers as Tertullian, Peter Dama-scanus, Bernard of Clairvaux, or in the Arabic tradition by Al Ghazzali's *The Destruction of Philosophy*. Al Ghazzali's answer by Averroes in his *Destruction of the Destruction* which asserts the supremacy of philosophy. Averroes reserves philosophy for men of requisite intellectual strength and relegates theology and religion to those who must substitute opinion and imagination for reason.

Neither Augustine nor Aquinas goes to these extremes. They do not dismiss philosophy as useless learning or as dangerously folly, subversive of the wisdom of faith, but neither do they admit the sufficiency of philosophy for knowledge of God—the mysteries of the divine nature, God's providence and His gracious gift of salvation to man.

Quoting St. Paul's warning to "beware lest any man spoil you through philosophy and vain deceit according to the tradition of men and the rudiments of the world, and not according to Christ," Augustine defends his praise of the Platonic philosophy which in his judgment comes nearest to the Christian faith on the ground that the Apostle also said to the gentiles that "that which is known of God is manifest among them, for God has manifested it to them." Yet he adds that the Christian man who is ignorant of their writings is not therefore ignorant that it is from the one true and supremely good God that we have that nature in which we are made in the image of God and that doctrine by which we know Him and ourselves and that grace with which by cleaving to Him we are blessed.

Philosophy according to Augustine can thus be dispensed with in all the major concerns of knowledge, love, or action. But Augustine does not argue that it should therefore be discarded.

If those who are called philosophers, he says, and especially the Platonists, have said aught that is true and in harmony with our faith, we

are not only not to shrink from it but to claim it for our own use from those who have unlawful possession of it even as the spoils of the Egyptians belong to the Jews

Though Augustine and Aquinas conceive the relation of faith and reason differently they seem to share a conception of philosophy as the handmaiden of theology when faith seeks understanding For Aquinas this does not appear to imply lack of dignity or even the loss of a certain autonomy on the part of philosophy On the contrary so highly does he regard the demonstrations of Aristotle whom he calls the philosopher that he opens the *Summa Theologica* with the question Whether besides the philosophical sciences any further doctrine is required.

He answers that it was necessary for the salvation of man that certain truths which exceed human reason should be made known to him by divine revelation Even as regards those truths about God which human reason can investigate it was necessary that man be taught by a divine revelation For the truth about God such as reason can know it would only be known by a few and that after a long time and with the admixture of many errors whereas man's whole salvation which is in God depends upon the knowledge of this truth It was therefore necessary that besides the philosophical sciences investigated by reason there should be a sacred science by way of revelation That sacred science is theology—not the theology which is a part of philosophy but the theology whose principles come from faith rather than from reason

There is no reason Aquinas writes why those things which are treated by the philosophical sciences so far as they can be known by the light of natural reason may not also be treated by another science so far as they are known by the light of the divine revelation On this view sacred theology may treat of certain things such as the mystery of the Trinity which do not belong properly to the philosopher because they exceed the power of reason to demonstrate but other matters concerning nature man and God may belong both to the philosopher and to the theologian who consider them according to their different lights Since a truth cannot conflict with a truth

though reason sponsors one and faith the other there can be no conflict between philosophy and theology

SOME MODERN philosophers like Bacon and Locke seem to agree with mediaeval theologians about the subordination of philosophy to theology But for the most part the modern tendency increasingly evident in the writings of Descartes Spinoza Kant and Hegel is to insist upon the complete autonomy of philosophy

Hegel for example challenges the imputation against Philosophy of being shy of noticing religious truths or of having occasion to be so and the insinuated suspicion that it has any thing but a clear conscience in the presence of these truths So far from this being the case Hegel remarks the fact is that in recent times Philosophy has been obliged to defend the domain of religion against the attacks of several theological systems

The diverse aspects of the problem of the relation of philosophy to theology and of theology to faith are discussed in the chapters on METAPHYSICS THEOLOGY and RELIGION The problem which is more characteristic of the modern consideration of philosophy concerns its relation to science

To state the problem some distinction between the two is necessary and making this distinction represents a novel departure both in thought and language As we have seen philosophy and science are almost identified throughout the ancient and mediaeval tradition In so far as the word science means knowledge rather than opinion the result of philosophical inquiry is science and philosophy as a whole is divided into a number of sciences There may be as ancient writings seem to suggest sciences which aim at useful productions rather than at speculative or practical wisdom and fall below the level of philosophy or there may be as some Christian theologians hold a sacred science superior in its wisdom to all the philosophical sciences But these exceptions to the identity of philosophy and science merely confirm the point that in the ancient or mediaeval view philosophy is scientific and consists of sciences even though there may be sciences which are not philosophical

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The diverse aspects of the problem of the relation of philosophy to theology and of theology to faith are discussed in the chapters on METAPHYSICS THEOLOGY and RELIGION The problem which is more characteristic of the modern consideration of philosophy concerns its relation to science

To state the problem some distinction between the two is necessary and making this distinction represents a novel departure both in thought and language As we have seen philosophy and science are almost identified throughout the ancient and mediaeval tradition In so far as the word science means knowledge rather than opinion the result of philosophical inquiry is science and philosophy as a whole is divided into a number of sciences There may be as ancient writings seem to suggest sciences which aim at useful productions rather than at speculative or practical wisdom and fall below the level of philosophy or there may be as some Christian theologians hold a sacred science superior in its wisdom to all the philosophical sciences But these exceptions to the identity of philosophy and science merely confirm the point that in the ancient or mediaeval view philosophy is scientific and consists of sciences even though there may be sciences which are not philosophical

This use of the words science and

ophy persists well into modern times. Hobbes for example presents his classification of the types of knowledge under the heading science that is Knowledge of Consequences which is also called Philosophy. Bacon proposes to divide sciences into theology and philosophy. Descartes uses the words science and philosophy interchangeably. Among the different branches of Philosophy he says I had in my younger days to a certain extent studied Logic and in those of Mathematics Geometrical Analysis and Algebra—three arts or sciences which seemed as though they ought to contribute to the design I had in view. In the Prefatory Letter to his *Principles of Philosophy* he likens philosophy as a whole to a tree whose roots are metaphysics whose trunk is physics and whose branches which issue from this trunk are all the other sciences. These reduce themselves to three principal ones: medicine mechanics and morals.

Even as near the end of the eighteenth century as Hume the word philosophy continues to be the general name for the particular sciences. It covers the experimental study of natural phenomena as well as what are for Hume the non-experimental sciences of mathematics and psychology. But it excludes divinity or theology insofar as its best and most solid foundation is faith and divine revelation metaphysics which is nothing but sophistry and illusion and all inquiries into particular as opposed to general facts such as history chronology geography and astronomy.

Nor is this use of terms confined to what readers today would call books of philosophy. The authors of the books which are today regarded as among the foundations of modern science—Galileo Newton Huygens and in the eighteenth century Lavoisier and Fourier—refer to themselves as philosophers and to the science in which they are engaged e.g. mathematics mechanics physics chemistry as parts or aspects of natural philosophy. They do however indicate an awareness of how they differ from ancient and mediaeval scientists (who also called themselves philosophers) by calling their own work experimental philosophy.

In this phrase lies the root of the distinction between philosophy and science as that distinction is generally understood by writers since the

eighteenth century. The word experimental applied to philosophy signifies a radical difference in the method of inquiry and even in the objects to be investigated for certain objects can be known only by experimental or empirical research. Kant appears to be the first (in the great books at least) to make a sharp separation between the investigation of either nature or mind by what he calls empirical as opposed to rational methods. He still uses the name science for both sorts of investigation but he appears to restrict philosophy to the latter—the pure *a priori* the rational sciences.

Two other innovations must be noted. Though Kant regards it as a rational discipline he excludes mathematics entirely from philosophy and criticizes its misleading influence upon those philosophers who have tried to imitate mathematical thought. And though he sometimes uses metaphysics narrowly to designate the critical examination of pure reason itself he also says that this name of metaphysics may be given to the whole of pure philosophy excluding all that belongs to the empirical and the mathematical employment of reason. Considering that it has only two objects nature and freedom—that which *is* and that which *ought to be*—Kant divides philosophy into the speculative and the practical use of pure reason which gives rise to a *metaphysics of nature* and a *metaphysics of morals*. Metaphysics therefore that of nature as well as that of morals and particularly the criticism of our adventurous reason which forms the introduction to and preparation for it constitute together Kant writes,

what may be termed philosophy in the true sense of the word. Its only goal is wisdom and the path to it science.

Kant's innovations in vocabulary plainly announce the separation of philosophy from mathematics and experimental science which is only intimated by earlier modern writers. But Kant still uses the word science for both the philosophical and the empirical sciences. The final step is taken in the nineteenth century when the word science is restricted to mathematics and to such knowledge of nature man and society as can be obtained by the methods of experimental or empirical research. William James for example stresses the fact that he is trying to expound psychology as one of the natural

sciences and to that end he tries to separate the problems which are capable of empirical investigation from those which belong to philosophical speculation. For Freud that separation is an accomplished fact and one which leaves to philosophy no problem that can be solved by science.

According to Freud it is inadmissible to declare that science is one field of human intellectual activity and that religion and philosophy are others at least as valuable and that science has no business to interfere with the other two. On the contrary Freud thinks it is right for scientific research to look on the whole field of human activity as its own and to criticize the unscientific formulations of philosophy. The trouble with philosophy is that it behaves itself as if it were a science but it parts company with science in that it clings to the illusion that it can produce a complete and coherent picture of the universe. It is this illusion which science continually punctures since in Freud's opinion that picture must needs fall to pieces with every new advance in our knowledge.

When science and philosophy are set apart at last it is possible to make sense of the typically modern questions concerning philosophy. How does it stand in relation to science? Does it consist of verifiable knowledge comparable to that which can be obtained in the natural and social sciences? If not what is the standard of truth in philosophy? Does it consist of definitions and postulates leading to rigorously demonstrated conclusions in a manner comparable to mathematics especially in its modern construction? If not must it not be regarded as opinion or speculation rather than as knowledge in any strict sense? Or if philosophical thought can be compared with mathematics does not the diversity of definitions and postulates employed by different philosophers reduce philosophy to a collection of competing systems rather than a single discipline in which philosophers work cooperatively as do scientists and mathematicians?

However the foregoing questions are answered there are still others. Does philosophy have distinct branches divided according to their objects of study like the natural sciences

or is philosophy to be identified with metaphysics? If in addition to metaphysics there is a philosophy of nature how are its principles and conclusions related to the findings of the natural sciences which appear to study the same object? Similarly if psychology is a branch of philosophy how is it related to experimental or clinical psychology? What is the relation of moral and political philosophy to the empirical social sciences concerned with describing not judging or regulating human conduct and social institutions? Is economics a science or is it a branch of moral philosophy or if it is both how are the two related?

What is the use of philosophy especially in its theoretic branches if unlike science it can not be applied to the mastery of physical nature and the production of utilities whether bridges or bombs? What finally at the end of its long history does philosophy come to if in such marked contrast to the continuously accelerated progress of the sciences it cannot claim any signal advance on which all philosophers are agreed but instead must admit that most of its problems seem to be perennially debated now as in every preceding century?

SOME OF THESE questions as well as certain answers to them are considered in other chapters the comparison of empirical research and philosophical thought as constituting different types of science in the chapter on SCIENCE the distinction and relation between natural philosophy and natural science in the chapter on PHYSICS the difference between philosophical and scientific psychology in the chapter on MAN the function of definitions hypotheses postulates or axioms in the foundation and method of philosophy and science in the chapter on PRINCIPLE the difference between the practical use of philosophy in the sphere of morals and the use of science in the sphere of the productive arts in the chapter on KNOWLEDGE the accumulation of truth as measuring advances in science and philosophy in the chapter on PROGRESS.

Here we must observe that such answers to these questions as tend to subordinate philosophy to science originate exclusively from modern views of the nature of knowledge of the criteria of truth and of the capacities of the

philosophy does not promise eternal salvation or earthly prosperity. The uses of philosophy as compared with religion and science must somehow be assessed in the terms which from the beginning of philosophy are of its essence—the love of wisdom and through it the search for human wisdom which shall be at once speculative and practical.

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## REFERENCES

To find the passage cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example, in 4 *Homer Iliad* bk II [265-283] 12d, the number 12d is the number of the volume in the set; the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example, in 53 *JAMES Psychology* 116a-119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left-hand side of the page; the letters c and d to the upper and lower halves of the right-hand side of the page. For example, in 7 *PLATO Symposium* 163b-164c the passage begins in the lower half of the left-hand side of page 163 and ends in the upper half of the right-hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART, BOOK, SECTION) are sometimes included in the reference line numbers in brackets as given in certain cases. e.g. *Iliad* bk. I [265-283] 12d.

**BIBLE REFERENCES.** The references are to book, chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verse, the King James version is cited first and the Douay indicated by a (D) follows. e.g. *OLD TESTAMENT Nehemiah* 7.45—(D) *II Esdras* 7.46.

**SYMBOLS.** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference. p.s.m. signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas*; consult the Preface.

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- 7 *PLATO Ly* 120a / *Euthydemus* 74b-76b / *Republic* bk II 320b-328b / bk V 368c-373c / bk VI 383d-398c / *Symposium* 177a-178a / *Philebus* 633a-635a esp 64b-635a / *Seventh Letter* 809-811a
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- 9 *ARISTOTLE Ethics* bk VI CH 3 388b-c CH 6 389d
- 10 *EPICTETUS Discourses* bk CH I 150a-151b CH 17 158d-161a
- 11 *AUGUSTINE Confessions* bk III p 8 14d-15a / *City of God* bk VII CH 264b-d 265b
- 12 *AQUINAS Summa Theologiae* ART I Q I A I 3b-4a
- 13 *THOMAS Aquinas* ART I 60a-b 65 d 71c-d 72 d PART IV 267 272b

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- 32 *HUME Human Understanding* SECT I 451a-455b PASSIM SECT VIII DIV 81 487a CT 41 BV 130 32 508 509d
- 33 *SMITH Wealth of Nations* bk 5d-6a
- 42 *KANT Pure Reason* 1a 13d 211 218d 243c 250a esp 245 246a / *Fundamental Principles of Metaphysics* 253a-c 254b 264b-d 270 d / *Practical Reason* 337a-338 / *Principles of Metaphysical Elements of Ethics* 365a-366a / *Metaphysics of Morals* 388a-c / *Judgment* 463 467a
- 46 *HEGEL Philosophy of Right* PR 1b-7d ADD TIONS 3 116a / *Philosophy of History* INTRO 156 158a 184d 185d
- 53 *JAMES Psychology* 641a-b 758a
- 54 *FREUD New Introductory Lectures* 874a
- 1a The relation of philosophy to theology = religion
- 7 *POTTER to Republic* bk IV 345d 346a / *The Ethics* 528c 531a / *Laws* bk X 797 798b



1 The divisions of philosophy 2b The branches of speculative philosophy the divisions of natural philosophy

18 AUGUSTINE *City of God* BK VIII CH 4 266d 267c BK XI CH 25 336b d

19 AQUINAS *Summa Theologica* PART I Q 1 A 1 REP 2 3b 4a Q 8 A 1 REP 2 451c-453c

23 HOBBS *Leviathan* PART I 71c d 72a d PART IV 269b

30 BACON *Advancement of Learning* 15d 39d 48d esp 40a 41b 42a-c 43a-45a 55b 61d esp 56c 58c 59c 60c / *Novum Organum* BK II APH 9 140b c

31 DESCARTES *Rules* I II 1a 3b IV 5a 7d / *Discourse* PART II 46c-48b / *Objections and Replies* 169c 170a

34 NEWTON *Principles* 1a b

35 LOCKE *Human Understanding* BK IV CH XXI 394d 395a c

35 BERKELEY *Human Knowledge* SECT 101 432c

39 SMITH *Wealth of Nations* BK V 335b 337a

42 HANT *Pure Reason* I 13d 15 16c 34a 37d esp 34c 35b 59c 210b c / *Fund. Prin. Metaphysic of Morals* 253 d 264d 266c d / *Practical Reason* 300d (in 1) 351b 352c / *Judgement* 463a 467a esp 463b 464a 476a 479d 485b 486d 488a 495a c 515b c 578a b

53 JARVIS *Psychology* 867a

2c The natural and branches of practical or moral philosophy: economics ethics politics jurisprudence poetics or the theory of art

7 PLATO *Republic* K X 427c 434c / *Statesman* 604c 608d

8 ARISTOTLE *Topics* BK I CH 14 [105<sup>b</sup>19-29] 149c / *Metaphysics* K II CH 1 [993<sup>b</sup>20 23] 512a K VI CH 1 [1519-28] 547d BK XI CH 7 [1064 10-19] 592b

9 ARISTOTLE *Ethics* BK I CH 1 339a 340d CH 7 [198 20<sup>b</sup>8] 343 344a BK II CH 2 [1103<sup>b</sup>26-104 9] 349b CH 4 350d 351b passim K III CH 3 [111 30<sup>b</sup>] 358b K VI CH 8 390d 391 K X CH 9 434a-436a c / *Politics* BK I CH 1 487 488b / *Poetics* 5681a 699a c passim esp CH -5 681a 684a

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23 HOBBS *Leviathan* PART I 58a b 72a d 78b c 80d 81a 95d 96b PART I 112c d 128d 129b 153 d 164a c PART V 268d CONCLUSION 282 d

30 HOBBS *Advancement of Learning* 81d 95b / *Novum Organum* BK I A 13 107b

31 DESCARTES *Discourse* PART VI 61b c 66d 67a

34 NEWTON *Optics* BK III 543b 544a

35 LOCKE *Human Understanding* BK III CH 24 SECT 15 18 303b 304b esp SECT 16 303 d BK IV CH III SECT 18 20 317d 9<sup>c</sup> IV SECT 7 III 325b 326b CH XII SECT 8 360c CH XXI SECT 1 3 394d 395a SECT 5 395c

35 HUME *Human Understanding* SECT I 415 451a-453b passim SECT XII DIV 131-135 508d 509d passim esp DIV 13 509c d

38 ROLISSEAU *Equality* 329a 334a c

41 GIBSON *Decline and Fall* 75d 80b passim

42 HANT *Fund. Prin. Metaphysic of Morals* 253a 254b 264b d 266c d 271a c 283d 287d / *Practical Reason* 291a 296d 300d (in 1) 304a d 307d 321b 327c d 329a 331 c esp 329b d / *Pref. Metaphysical Elements of Ethics* 366d 368a 370d 372a 373b c 374a c 378a / *Intro. Metaphysic of Morals* 383a d 388a d 390b d 391a / *Science of Right* 398a 399c / *Judgement* 463a 464a 515b c 523d 524a 596c 598b

43 FEDERALIST NUMBER 9 47a d NUMBER 31 103c 104a passim

43 MILL *Utilitarianism* 445a-447b passim 453c

46 HEGEL *Philosophy of Right* PREF 1d 7c INTRO par 1 9a

50 MARX *Capital* III 11d passim esp 6a d 8a 9b 178d 179c 265a 266a 267c d

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### 3 The method of philosophy

3a The foundations of philosophy in experience and common sense

8 ARISTOTLE *Prior Analytics* BK I CH 30 [49 18 28] 64a / *Posterior Analytics* BK I CH 13 121b c CH 31 120a c BK II CH 2 [90<sup>a</sup>24 3] 123b c CH 19 136a 137a c / *Physics* BK I CH 1 259a III / *Heaven* BK III CH 1 [205<sup>b</sup>13 21] 390a b CH 7 [306 18] 397b c / *Generation and Corruption* BK I CH 2 [316 5 14] 411c d CH 3 [318<sup>b</sup>19 31] 415c d / *Metaphysics* K I CH 1 499a 500b / *Sense and the Sensible* CH 1 [436<sup>b</sup>13 437<sup>a</sup>16] 673c 674a

12 LUCRETIUS *Nature of Things* BK I [1 8 44] 6b III [693 700] 9c BK IV [353-5 1] 481 51a esp [409-521] 50b 51a

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28 HARVEY *Motion of the Heart* 268a-c / *On Animal Generation* 331b 335c

30 BACON *Advancement of Learning* 16a 57b 58b / *Novum Organum* BK I APH 19-23 108b c

31 DESCARTES *Discourse* PART I 53b / *Meditations* 175 77c

- 31 SINOZA *Ethics* PART II PROP IO SCHOL 376d 377a
- 32 HUME *Human Understanding* SECT I DIV 4 451d-452a SECT XII DIV 130 508c d
- 42 KANT *Pure Reason* 14a b 15c 16c 19a 236d 237a 247a b / *Fund Prim Metaphys c of Morals* 253a-c 254b-c 263b-d 271a-c 281c 282d / *Practical Reason* 320c 321b 329d 330c 358a / *Pref Metaphysical Elements of Ethics* 365a d / *Intro Metaphys c f Mor Is* 387a 388a / *Science of Right* 397b 398a / *Judgement* 551a 552 562d 563b 603 b 604a b
- 43 M L L *Utilitarianism* 445b-446b
- 53 J. B. *Psychology* 655a 659a
- 33 The philosopher's appeal to first principles and to definitions
- 7 PLATO *Republ* BK VI 383d 388a BK VII 388 398c esp 396d 398c
- 8 ARISTOTLE *Posterior Analytics* 97a 137a c esp BK I CH 1-3 97a 100 BK II CH I 122b d 128d / *Top* BK VIII CH I [ 55<sup>b</sup> 16] 211a b CH 14 [163<sup>b</sup> 16] 222a / *S physical Refutations* BK I CH 16 [175 12] 241a / *Physics* BK I CH I 259a b CH 2 [ 84<sup>a</sup> 25 85 19] 259c 260a BK II CH 7-9 275b 278a c / *Heaven* BK II CH 13 [294<sup>b</sup> 6-14] 386a BK II CH 7 [306 1-18] 397b c / *General n and Corruption* BK I H 3 [ 6 5 14] 411c d / *Metaphysics* BK II CH 2 [997<sup>a</sup> 25 34] 515d 516a BK IV CH 4 522b 524b esp [ 4<sup>a</sup> 25 31] 523b c [ 004<sup>b</sup> 18 27] 523d CH 4 [1005<sup>b</sup> 35 1 06<sup>a</sup> 28] 525a c CH 7 [1012 18 24] 532a b CH 8 [ 012<sup>b</sup> 8] 532c BK VI CH I [ 1 25<sup>b</sup> 16] 547b BK XI CH I [ 059<sup>a</sup> 29-34] 587b CH 3 589a d esp [1061 10-18] 589b CH 5 [ 61<sup>b</sup> 34-1062 19] 590 b CH 7 [1064 4-9] 592b BK X CH 4 [ 1 8<sup>b</sup> 13 30] 610a c / *Soul* K I CH [ 4 2 1] CH 2 [ 4 3<sup>b</sup> 3] 631a 633a BK II CH 4 [ 415 4 2] 645b c
- 9 ARISTOTLE *Ethics* BK I H 3 339d 340b CH 4 [ 1095 30<sup>b</sup> 12a] 340 d CH 7 [ 098<sup>a</sup> 20-8] 343c 344 BK VI CH 3 388b c CH 6 389d CH II [ 43 3 61<sup>b</sup>] 392d 393a
- 10 AQUINAS *Summa Theologiae* ART I Q I A 2 ANS a d EP I 4a c Q 2 A 2 11d 12c
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- 31 SPIN ZA *Ethics* PART II PROP IO SCHOL 376d 377a
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- 35 LO KE *Hum n Under t nds* g BK I CH III SECT 4 25 120 d
- 35 HUME *Human Understanding* g s CT I DI 2 451b-c
- 42 KANT *Pu Reaso* 179d 182b 215d 217a / *Pr ctical Re ion* 293 294c
- 43 FEDERAL I NUM ER 31 103c 104
- 43 M L L *Utilitarianism* 445a-447b passim
- 46 HEG E *Philosophy of Right* PRE 1b INT b par 2 9b 10a ADDITIONS 3 116a / *Philosophy f Hist ry* NTRO 156c 158a
- 3c The processes of philosophical thought induction intuition definition demonstration reasoning analysis and synthesis
- 7 PLATO *Protagoras* 50d 52d 57a c / *Eit ly demus* 65 84a c / *Ph ed us* 134a d 139d 140b / *Meno* 179d 183c / *R public* BK VI VII 383d 398c / *Parmenides* 486 511d esp 491 d / *Thea tet us* 514b-515d 525d 526b / *Sophist* 570a 574c esp 571a c / *Statesman* 580a 608d esp 595a d / *Philebus* 609a 613c / *Seventh Letter* 809c 810d
- 8 ARISTOTLE *Prior Analytics* 97a 137 c esp BK I CH 1-3 97a 100 BK II CH I 122b d 128d / *Top* BK VIII CH I [ 55<sup>b</sup> 16] 211a b CH 14 [163<sup>b</sup> 16] 222a / *S physical Refutations* BK I CH 16 [175 12] 241a / *Physics* BK I CH I 259a b CH 2 [ 84<sup>a</sup> 25 85 19] 259c 260a BK II CH 7-9 275b 278a c / *Heaven* BK II CH 13 [294<sup>b</sup> 6-14] 386a BK II CH 7 [306 1-18] 397b c / *General n and Corruption* BK I H 3 [ 6 5 14] 411c d / *Metaphysics* BK II CH 2 [997<sup>a</sup> 25 34] 515d 516a BK IV CH 4 522b 524b esp [ 4<sup>a</sup> 25 31] 523b c [ 004<sup>b</sup> 18 27] 523d CH 4 [1005<sup>b</sup> 35 1 06<sup>a</sup> 28] 525a c CH 7 [1012 18 24] 532a b CH 8 [ 012<sup>b</sup> 8] 532c BK VI CH I [ 1 25<sup>b</sup> 16] 547b BK XI CH I [ 059<sup>a</sup> 29-34] 587b CH 3 589a d esp [1061 10-18] 589b CH 5 [ 61<sup>b</sup> 34-1062 19] 590 b CH 7 [1064 4-9] 592b BK X CH 4 [ 1 8<sup>b</sup> 13 30] 610a c / *Soul* K I CH [ 4 2 1] CH 2 [ 4 3<sup>b</sup> 3] 631a 633a BK II CH 4 [ 415 4 2] 645b c
- 9 ARISTOTLE *Ethics* BK I H 3 339d 340b CH 4 [ 1095 30<sup>b</sup> 12a] 340 d CH 7 [ 098<sup>a</sup> 20-8] 343c 344 BK VI CH 3 388b c CH 6 389d CH II [ 43 3 61<sup>b</sup>] 392d 393a
- 17 PLOTINUS *Ennead* TR III CH 4-6 11a 12b / *S th E n ad TR* CH 4 270 271a
- 18 AUGUSTINE *City of God* BK V I CH 2-8 265b 270d passim
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- 24 RABELAIS *Gargantua and Pantagruel* K II 101b 106a
- 30 BACON *Advancement of Learning* g 42a c 56 59 / *N um O g num* 105 195d
- 31 D. S. RT *Rules* I X I 1a 27d / *Discour e* PART II 46-47d / *M d t uo* 75 77 / *Obj u ns and R pl* 119 120c 128a 129a
- 33 PASCAL *Geometrical Demonstration* 442a 443b
- 34 NEWTON *Principles* K III RULES 270a 271b / *Optics* BK I 543 544a
- 35 LO KE *Human Understanding* g IN RO CT 3-5 93d 94d BK I CH ECT 24 5 120 d
- 35 H. H. *Human Understanding* CT DV 2 451b c DV 7-9 453 455a CT I 457a b TX DV II 503d 504a

3 The method of philosophy 3c The processes of philosophical thought induce on us a sense of definition, demonstration, reasoning, analysis and synthesis

38 ROUSSEAU *Inequality* 339d 341b 342b

42 HANTY *Pure Reason* 1a 13d 16a c 109d 112d 115d 116a 119a b 184b c 185b = 193a 200c esp 193d 194b 199a c 211c 218d / *Fund Prin Metaphys of Mo al* 264d / *Practical Reason* 294a b 330d 331a 336d 337a c / *Prat Metaphysical Elements of Ethics* 365a 366a 376c d

43 MILL *Liberty* 274b 293b passim

51 TOLSTOY *What and How* = *Epilogue* II 690a =

51 JAMES *Psychology* 674a 675b esp 675b 687a

3d The methodological reformation of philosophy

30 BACON *Advancement of Learning* 11a 17b esp 1 a 13c 15a b 16a 30b-c 40a c 47d 48d 65a = / *Notum Organum* 105a 195d

31 DESCARTES *Rules* I x 11 1a 27d / *Discourse* 41a 67a c esp PART III IV 48b 54b / *Meditations* 69a 71a c 1 75a 77c / *Objections and Replies* 119c d 126a b 128a 129a POSTULATE I PROP IV 130d 133a c 134b c 167a c 206a 207a 237b 238b 267a 277a c

35 LOCKE *Human Understanding* BK IV CH XII 358c 363b esp SECT 14 15 362d 363b

35 BERKELEY *Human Knowledge* INTRO 405a 412a c pa im esp s CT 21 5 411b 412a c SECT 133 134 439c 440a

35 HUME *Human Understanding* SECT I DIV 7 10 453c 455b s CT VII DIV 49 471c d SECT XII DIV 16 503d 504a

4 HNT *Pure Reason* 1a 13d 19a 22a c 36d 37b 101d 102a 133 134d 146a 149d 157d 196b 197c 218d 227a esp 224a 227a 248d 250a c / *Fund Prin Metaphys of Mo al* 253c d 260d 261c 273d 274a 277d 279d / *Practical Reason* 292a 296d esp 292d 293b 294a = 299d 311d 313d 320c 321b 331a 332d 335b c 336d 337 c / *Judgement* 492c d 567c 568a

54 FREUD *New Introductory Lectures* 875a

4 The uses of philosophy diverse conceptions of its aims, action and value

4a The philosophic mode of life contemplation and happiness

7 PLATO *Euthydemus* 69a 71a / *Phaedrus* 122b 128 / *Symposium* 167b d / *Meno* 183c 184c / *Apology* 200a 212 c / *Ph d* 223a 226c 231c 234c / *Republic* BK V VII 368c-401d / *Timaeus* 476a b / *Theaetetus* 528b 531a / *Philebus* 609a 639a c esp 633a 639 c / *Laws* BK I 643c d / *Seventh Letter* 808c 809a

8 ARISTOTLE *Topics* BK I CH 2 [118 6-16] 164d 165a / *Metaphysics* BK X I 17 [1072 14 29] 602d 603a

9 ARISTOTLE *Ethics* BK I CH 8 [1098 19-109] 6] 344a c BK VI CH II [1144 2-6] 390c 412a CH 7-8 431d-433a / *Politics* BK II CH 7 [1274 14] 462d BK VII CH I 3 527a 530a

10 LUCRETIUS *Nature of Things* BK II [1-6] 15a d BK V [1-54] 61a d BK VI [1-9] 80a 87b

12 EPICTETUS *Discourses* BK I CH 4 108d 110a CH 15 121c d CH 27 132b-133b CH 29 134b 138a BK II CH 1 138b d 140c CH 12 1 1b 152c CH 14 153d 155b CH 17 158d 161a CH III CH 5 180d 181d CH 10 185d 187 CH 11 190a 191a CH 21 22 193d 201a BK IV 230b 232c

12 AURELIUS *Meditations* BK III SECT 6 25a c SECT 9 261d SECT 12 262b-c BK IV SECT 1 264d BK V SECT 8-9 269d 270c BK VI SECT 12 274c BK X SECT 12 298c d

13 VIRGIL *Georgics* II [490-493] 65b

17 PLOTINUS *First Ennead* TR III CH 3-6 11 12b TR IV CH 4 16 14a 19b

18 AUGUSTINE *City of God* BK VIII CH 5 26 268d CH II 270a d BK X CH 2 299d 300

19 AQUINAS *Summa Theologiae* CA P RT 1 Q 1 A 8 REP 4 57b-58b Q 26 A 2 A 3 and 212 150c 151a PART I II Q 3 AA 4-5 625a 631a

20 AQUINAS *Summa Theologiae* CA P RT 1 Q 1 A 5 REP 1 2 79b 80c

22 CHAUCER *Prologue* [285 308] 164a b

25 MONTAIGNE *Essays* 70d 72a 10 a 11b 231d 246a 395d 303b 304c 308a 311

538a 543a c

30 BACON *Advancement of Learning* 69d esp 70b-72c 73c 74a

31 DESCARTES *Rules* I 1d / *Discourse* P 1 41d-42a PART III 49d 50b / *Meditations* 11 88d 89a

31 SPINOZA *Ethics* PART IV APP 10 447b = XXXII 450c d PART V 451a-463d

35 HUME *Human Understanding* SECT I DIV 453b c

38 ROUSSEAU *Inequality* 345a / *Political Economy* 373d 374a

42 KANT *Judgement* 591b 592a

43 MILL *Utilitarianism* 451m

46 HEGEL *Philosophy of History* PART I 368 369a c

47 GOETHE *Faust* PART I [614-685] 17 18 [1194 1201] 29b

48 MELVILLE *Moby Dick* 255a 308 b

4b Philosophy as a moral discipline the consolation of philosophy

7 PLATO *Euthydemus* 69a 71a / *Meno* 183c 184c / *Phaedrus* 222a 226c 231c 234c / *Timaeus* 476a b / *Theaetetus* 528 531

12 LUCRETIUS *Nature of Things* BK I [1-6] 15a d BK III [1-9] 30a 1d 2d BK II [1-61] 15a d BK III [1-9] 30a 31b [307 322] 34a b [330 109] 40c-44a

BK V [1-54] 61a d BK VI [1 41] 80a d

12 EPICTETUS *Discourses* 105a 245a c esp BK I CH 4 108d 110a CH 9 114c 116b CH 15 121c d

CH 17 122d 124a CH 24 129a d CH 27 132b

133b CH 29 134d 138a BK III CH I 138b d  
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AURELIUS *Mediatus* 253a 310d esp BK II  
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259b d BK III SECT 3 260b K IV SECT 3  
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48 267d 268a SECT 50 268c BK V S CT 9  
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285 b SECT 25 287b SECT 31 287d SECT  
58 290d BK IX SECT 3 291d 292a SECT XI  
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1 VIRGIL *Georgics* II [490-493] 63b

1 AUGUSTINE *City of God* BK VIII CH 3 266a d  
CH 8 270a d

1 MONTAIGNE *Essays* 21d 22a 28a 36b 55d  
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1 BACON *Advancement of Learning* 26a c 73d  
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1 SINOZA *Ethics* PART IV PROP 6, -73 444d  
447a PART V PROP 25 42 458d-463d

1 P C L *Pericles* 67 180b

1 HUME *Human Understanding* SECT I DIV  
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5 STERNE *Tristram Shandy* 388a-417b

7 FELDNG *Tom Jones* S 35a d 182a c

3 ROUSSEAU *Political Economy* my 373d 374a

0 GIBSON *Decline and Fall* 644d 646a

2 KANT *Fundamental Principles of Metaphysics of Morals*  
261c d / Pref Metaphysical Elements of Ethics  
368c d

6 HEGEL *Philosophy of History* PART III 303b-c

7 GOETHE *Faust* PART I [614-685] 17a 18a  
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The overall role of philosophy the philosopher  
and the statesman the philosopher king

7 PLATO *Euthydemus* 83c-d / *Apology* 207a  
208a / *Gorgias* 72b 723b 291c 292b / *Re-  
public* BK V VI 368c 383c BK VII 390b  
391b 398 401d / *Theaetetus* 525c 526a  
528 531a / *Statesman* 598b 608d / *Lysis*  
BK 643c d / *Seventh Letter* 801b 802c  
806b

8 ARISTOTLE *Metaphysics* BK I CH 2 [982 5 19]  
500b c

9 ARISTOTLE *Ethics* BK VI CH 7-8 390 391  
K X CH 9 434a 436a c / *Politics* BK VI CH  
2 3 528a 530a

12 LUCRATIUS *Nature of Things* BK II [1-61]  
15a d BK V [13 1135] 75c d

12 AURELIUS *Mediatus* K VI S CT 14 274d  
27 a

14 PLUTARCH *Lysias* 32 48d esp 47 48c /  
*Numa Pompilius* 59c 60b / *Solon* 64b d

77 c / *Pericles* 122d 123c / *Alcibiades* 156c

158b / *Marcus Cato* 287d 288c / *Alexander*  
543b 544a 566a 567d 571b 572a / *Cicero*  
717a b / *Dion* 782c 788b

15 TACITUS *Annals* BK XIV 153d 155a BK XV  
172c 173d

23 HOBBS *Leviathan* PART II 164a c

24 RABELAIS *Gargantua and Pantagruel* BK III  
127b d 131a c

25 MONTAIGNE *Essays* 55d 62a

30 BACON *Advancement of Learning* 5a b 20b  
26a 27c 30a c

32 MILTON *Areopagitica* 383a

35 LOCKE *Human Understanding* BK III CH X  
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35 HUME *Human Understanding* SECT I DIV 4  
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502d 503b

38 MONTESQUIEU *Spirit of Laws* BK XXIV  
202d 203a

38 ROUSSEAU *Inequality* 345a / *Political Economy*  
373d 374a

40 GIBSON *Decline and Fall* 32a II 205d 206a  
284a-c 338d 339 390d 669b c

41 GIBSON *Decline and Fall* 40b-41a 72  
76d 77b

42 KANT *Practical Reason* 360d 361d

43 FEDERALIST NUMBER 49 159d 160a

46 HEGEL *Philosophy of Right* PREF 4b 7c /  
*Philosophy of History* PART II 279d 281a  
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48 MELVILLE *Moby Dick* 107a b

54 FREUD *Colossus of the Decades* 780a b

5 The character and training of the philosopher the difficulty of being a philosopher

7 PLATO *Euthydemus* 84a c / *Phaedrus* 125b  
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*Apology* 200a 212a c / *Phaedo* 223a 226c  
231c 234 / *Gorgias* 271 c 273b d 291c  
292b / *Republic* BK II 320b-c BK V-VII  
368 401d / *Timaeus* 476a b / *Parmenides*  
491a / *Theaetetus* 525c 526b 528c 531a /  
*Seventh Letter* 808 809a

8 ARISTOTLE *Prior Analytics* BK CH 9  
[76 26-3] 104d / *Topics* K VI C I 4 [163  
8 6] 222a / *Heaven* BK II CH 12 [29 24 9]  
383b-c / *Metaphysics* K I CH 2 500b 501c /  
*Soul* BK CH [4 1-22] 631 c

9 ARISTOTLE *Ethics* BK I CH 6 [1096 II 7]  
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10 GIBSON *Natural Faculty* BK CH 14 178d  
179a K II CH 07d

12 ECTHUS *De coelestibus* K I CH 8 113d 114  
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9 192c d CH 2 - 193d 201 K IV CH 6  
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- (3) *The method of philosophy* 3c *The processes of philosophical thought induction intuition deduction demonstration analysis and synthesis*

11 ROUSSEAU *Inequality* 339d 341b 342b

42 KANT *Pure Reason* 1a 13d 16a c 109d 112d 115d 116 119a b 184b c 185b c 193a 200c esp 193d 194b 199a-c 211c 218d / *Fund Prin Metaphysic of Mo als* 264d / *Practical Reason* 294a b 330d 331a 336d 337a c / *Pr f Metaphysical Elements of Ethics* 365a 366a 376c d

43 MILL *Liberty* 274b 293b passim

51 TOLSTOY *War and Peace* EP LOGUE II 690a b

11 J 12a *Psychology* 674a 675b esp 675b 687a

- 3d *The methodologic reform of philosophy*

30 BACON *Advancement of Learning* 11a 17b esp 12a 13c 15a b 16a 30b c 40a c 47d 48d 65a c / *New Organum* 105a 195d

31 DESCARTES *Rules* I XIII 1a 27d / *Discourse* 41a 67a c esp v AT III IV 48b 54b / *Meditations* 69a 71a c 75a 77c / *Objections and Replies* 119c d 126a b 128a 129a POSTULATE I P OF IV 130d 133a c 134b c 167a-c 206a 207a 237b 238b 267a 277a c

35 LOCKE *Human Understanding* BK IV CH XII 358c 363b esp SECT 14 15 36 d 363b

36 BERKELEY *Human Knowledge* INTRO 405a 412a c passim esp SECT 21 25 411b 412a c SECT 133 134 439c 440a

37 HUMPHREY *Human Understanding* SECT I DIV 7 10 453c 455b SECT VII DIV 49 471c d SECT XII D 116 503d 504a

42 KANT *Pure Reason* 1a 13d 19a 22a c 36d 37b 101d 102a 133 134d 146a 149d 157d 196b 197c 218d 227a esp 224a 227a 248d 250a c / *Fund Prin Metaphysic of Mo als* 253 d 260d 261c 273d 274a 277d 279d / *Practical Reason* 292a 296d esp 292d 293b 294 b 299d 311d 313d 320c 3 1b 331a 332d 335b c 336d 337a c / *Judgement* 491 d 567c 568a

54 FREUD *New Introductory Lectures* 875a

- 4 *The uses of philosophy diverse conceptions of its aim function and value*

4a *The philosophical mode of life contemplation and happiness*

7 PLATO *Euthydemus* 59a 71a / *Phaedrus* 122b 128a / *Symposium* 167b d / *Meno* 183c 184c / *Apology* 200a 212a c / *Phaedrus* 223a 226c 231c 234c / *Republic* K V VII 368c-401d / *Timaeus* 476a b / *Theaetetus* 528b 531a / *Philosophy* 609a 639a c esp 633a 639a c / *Laws* BK I 643c d / *Seventh Letter* 803 809a

8 ARISTOTLE *Topics* BK III CH [187-16] 164d 165a / *Metaphysics* BK XI CH 7 [1072<sup>b</sup> 14 29] 602d 603a

9 ARISTOTLE *Ethics* BK I CH 8 [1098<sup>b</sup> 19-20c 6] 344a b BK VI CH 12 [1144<sup>a</sup> 6] 393c BK VII CH 7-8 431d-434a / *Politics* BK II CH 7 [1288<sup>a</sup> 8 14] 462d BK VII CH 1 3 527a 530a

12 LUCRETIVUS *Nature of Things* BK II [1-4] 15a d BK V [1-5] 61a d BK VI [1-9] 82a 83a

12 EPICTETUS *Discourses* BK I CH 4 108d 109a CH 15 121c d CH 27 132b 133b CH 29 134d 138a BK II CH I 138b d 140c CH 12 1 b 152c CH 14 153d 155b CH 17 158d 161 b CH 5 180d 181d CH 10 185d 187a CH 190a 191a CH 21 22 193d 201a BK IV III 230b 232c

12 LUCILIUS *Meditations* BK III SECT 6 161a c SECT 9 261d SECT 12 262b-c BK I SECT 16 264d BK V SECT 8-9 269d 270c BK VI 1107 12 274c BK X SECT III 298c d

13 VIRGIL *Georgics* II [490-493] 65b

17 PLOTINUS *First Ennead* TR III CH 5-6 112 12b TR IV CH 4 16 14a 19b

18 AUGUSTINE *City of God* BK VIII CH 5 26 d 268d CH III 270a d BK X CH 2 299d 300a

19 AQUINAS *Summa Theologica* PART I Q 1a A 8 REP 4 57b 58b Q 26 A 3 A 3 and 301 150c 151a PART II Q 3 A 4-5 625a 627a

20 AQUINAS *Summa Theologica* PART II Q 6 A 5 REP 1 79b 80c

2 CHAUCER *Prologue* [28] 308 164a b

25 MONTAIGNE *Essays* 70d 72 107a 1 231d 246a 395d 503b 504c 505a 5 538a 543a c

30 BACON *Advancement of Learning* III 4 esp 70b 72c 73c 74a

31 DESCARTES *Rules* I 1d / *Discourse* PART I 41d 42a PART III 49d 50b / *Meditations* 88d 89a

31 SPINOZA *Ethics* PART IV APPENDIX 447b-c XXXII 450c d PART V 451a-453d

35 HUME *Human Understanding* SECT I DIV I 453b-c

38 ROUSSEAU *Inequality* 345a / *Political Economy* 373d 374a

42 KANT *Judgement* 591b 592a

43 MILL *Utilitarianism* 451c

46 HEGEL *Philosophy of History* PART IV 369a c

47 GOETHE *Faust* PART I [614-68] 11a 16a [119] 1 01 29b

48 MELVILLE *Moby Dick* 255a 308a b

- 4b *Philosophy as a moral discipline the consolation of philosophy*

7 PLATO *Euthydemus* III 71a / *Meno* 183c 184c / *Phaedrus* 222a 226c 231c 234c / *Timaeus* 476a b / *Theaetetus* 528 531a

12 LUCRITIUS *Nature of Things* BK I [1-6] 15 b BK III [1-9] 130<sup>a</sup> 1d 2d BK II [1-6] 15 b BK III [1-9] 130<sup>a</sup> 31b [307 322] 34a b 1330 1094 d 44a c BK V [1-5] 61a d BK VI [1-4] 80a d

12 EPICTETUS *Discourses* 105a 245a c esp BK I CH 4 108d 110a CH 9 114c 116b CH 15 121c d CH 17 122d 124 CH 24 129a d CH 27 132b

133b CH 29 134d 138a BK II CH I 138b d  
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181d CH 21 23 193d 203b BK IV CH I 213a  
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263b 264a SECT 5 264b SECT 46 267c SECT  
48 267d 268a s CT 50 268c BK V s CT 9  
270b-c SECT 14 271b BK VI s CT 12 274c  
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285 II s CT 25 287b SECT 31 287d SECT  
53 290d BK IX s CT 3 291d 292a SECT 21  
293b-c SECT 41 295c BK VII SECT 35-36  
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1 VIRGIL *Georgics* II [490-493] 65b

3 AUGUSTINE *City of God* BK VIII CH 3 266a d  
CH 8 270a d

5 MONTAIGNE *Essays* 21d 22a 28a 36b 55d  
62a 69d 75a 231d 237d 240c 242d 283b  
284c 401c d 503b 504c 508a 512 529c  
530c

7 B CON *Advancement of Learning* 26a c 73d  
74a

1 S INOZA *Ethics* PART IV PRO 67-73 444d  
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3 P CAL *Penis* 1 67 180b

5 HUME *Human Understanding* SECT I DIV  
1 4 451a-452c SECT V DIV 34 463d-464b

6 STERN *Tram Shady* 388a-417b

7 FIDING *Tom Jones* 35a d 182a c

8 ROUSSEAU *Political Economy* 373d 374a

9 GIBSON *Decline and Fall* 644d 646a

2 KANT *Fundamental Principles of Metaphysics of Morals*  
261c d / *Pref. Metaphysical Element of Ethics*  
368c d

6 HEGEL *Philosophy of History* PART III 303b c

7 GÖTTE *Fine* PART I [614-685] 17a 18a  
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and the statesman the philosopher  
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7 PLATO *Euthydemus* 83c-d / *Apolo* 207a  
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*public* BK V-V 368c 383c BK VII 390b  
391b 398 401d / *Theaetetus* 525c 526a

528 531a / *Statesman* 598b 608d / *Laws*  
BK 643c d / *Seventh Letter* 801b 802c  
806b-c

8 ARISTOTLE *Metaphysics* BK I CH 2 [982 5 9]  
500b-c

9 ARISTOTLE *Ethics* BK VI CH 7-8 390a 391  
K CH 9 434a-436a c / *Politics* BK VII CH  
2 3 528 530a

12 LUCRATIUS *Nature of Things* BK II [1-6]  
15a d BK V [13 1135] 75 d

12 AURELIUS *Meditations* BK VI s CT 14 274d  
275a

14 PLUTARCH *Lycurgus* 32a-48d esp 47 48 /  
*Numa Pompilius* 59 60b / *Solon* 64b d

77 c / *Pericles* 122d 123c / *Alcibiades* 156c  
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543b 544a 566a 567d 571b 572a / *Cicero*  
717a b / *Don* 782c 788b

15 TACITUS *Annals* BK XIV 153d 155a BK XV  
172c 173d

23 HO BEE *Leviathan* PART II 164a c

24 RABELAIS *Gargantua and Pantagruel* BK III  
127b d 131a c

25 MONTAIGNE *Essays* 55d 62a

30 BACON *Advancement of Learning* 5a II 20b  
26a 27c 30a e

32 MILTON *Areopagitica* 383a

35 LOCKE *Human Understanding* BK III CH 1  
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35 HUME *Human Understanding* SECT I DIV 4  
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38 MONTESQUIEU *Spirit of Laws* BK XXIV  
202d 203a

38 ROUSSEAU *Inequality* 345a / *Political Economy*  
373d 374a

40 GORDON *Decline and Fall* 32a b 205d 206a  
284a-c 338d 339 390d 669b c

41 GIBSON *Decline and Fall* 40b-41a 72c  
76d 77b

42 KANT *Practical Reason* 360d 361d

43 FEDERALIST NUMBER 49 159d 160a

46 HEGEL *Philosophy of Right* REF 4b 7c /  
*Philosophy of History* PART II 279d 281a

PART III 303b c PART IV 360b c 363d  
364c

48 MELVILLE *Moby-Dick* 107a b

54 FREUD *Civilization and Its Discontents* 780 b

5 The character and training of the philosopher  
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7 PLATO *Euthydemus* 84a c / *Phaedon* 125b  
126 / *Symposium* 163a 168a 169c 172d /

*Apology* 200a 212 / *Phaedrus* 223a 226  
231c 234c / *Gorgias* 271a II 273b d 291c

292b / *Republic* BK II 320b c BK V-VII  
368 401d / *Timaeus* 476a b / *Parmenides*  
491a-c / *Theaetetus* 525c 526b 528c 531a /

*Seventh Letter* 808 809a

8 ARISTOTLE *Posterior Analytics* s BK CH 9  
[762-3] 104d / *Topica* s BK CH 4 [163]  
8 16] 222a / *Heaven* BK II n 12 [291-24 9]

383b c / *Metaphysics* K I CH 2 500b 501c /  
*Soul* BK CH 14 12 631a b

9 ARISTOTLE *Ethics* K I n 6 [196 17 7]  
341b K II CH 7 [177 19-3] 431d 432a

10 GAUSS *Natural Faculties* s BK I CH 14 178d  
179a K III CH 207d

12 EPICTETUS *Discourses* s K I CH 8 113d 114c  
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1 138b d 140 n 3 141d 142a n 8-g 146a

148c n 12 150a 152c n 7 158d 161a  
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19 192c d CH 2 193d 201 K IV CH 6

230b 232 c 8 235b 237d



- 133b ch 29 134d 138a bk ii ch i 138b d  
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181d ch 21 23 193d 203b bk iv ch i 213a  
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- 12 AU ELIUS *Mediatio* 253a 310d esp bk ii  
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259b d bk iii sect 3 260b bk iv sect 3  
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43 267d 268a sect 50 268c bk v s ct 9  
270b c sect 14 271b bk vi sect 11 274c  
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285a b sect 25 287b-c sect 31 287d sect  
58 290d bk ix s p c t 3 291d 292a sect 21  
293b-c sect 41 295c bk xii sect 35 36  
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- 13 VIRGIL *Georgics* ii [490-493] 65b
- 18 AUGUSTINE *City of God* bk viii ch 3 266a d  
ch 8 270a d
- 25 MONTIGNE *Essays* 21d 22a 28a 36b 35d  
62a 69d 75a 231d 237d 240c 242d 283b-  
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530c
- 30 BACON *Advancement of Learning* 26a-c 73d  
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- 31 S I OZA *Ethics* PART IV PROP 67-73 444d  
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- 33 PASCAL *Pensées* 67 180b
- 38 HUME *Human Understanding* g sect 1 DIV  
1 4 451a-452c sect v DIV 34 463d-464b
- 36 STERNE *Tram Shandy* 388a-417b
- 37 FIELDING *Tom Jones* 35a d 182a c
- 38 ROUSSEAU *Political Economy* 373d 374a
- 40 GIBSON *Decline and Fall* 44d 464a
- 42 HANT *Fund Prin Metaphysic of Morals*  
261 d / *Prin Metaphysic Elements of Ethics*  
368c d
- 46 HEGEL *Philosophy of History* PART III 303b-c
- 47 GORTHE *Faust* PART I [614-685] 17a 18a  
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- c The social role of philosophy the philosopher and the statesman the philosopher king
- 7 PLATO *Euthydemus* 83c-d / *Apology* 207a  
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528c 531a / *Statesman* 598b 608d / *Laws*  
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806b
- 8 ARISTOTLE *Metaphysics* bk i ch 2 [982-5] 19]  
500b-c
- 9 ARISTOTLE *Ethics* k vi ch 7-8 390a 391c  
bk x ch 9 434a 436a c / *Politics* bk vi ch  
2 3 528a 530a
- 12 LOCKE *Nature of Things* bk ii [x-61]  
15a d bk v [1113-1135] 75c d
- 12 AURELIUS *Meditations* bk v ECT 14 274d  
275a
- 14 PLUTARCH *Lycurgus* 32a-48d esp 47a-48c /  
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- 11 LACTANTIUS *Annals* bk xiv 153d 155a bk xv  
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- 23 HOS ES *Leviathan* PART II 164a c
- 24 RABELAIS *Gargantua and Pantagruel* bk iii  
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- 25 MONTAIGNE *Essays* 55d-62a
- 30 BACON *Advancement of Learning* 5a 11 20b-  
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- 32 MILTON *Areopagitica* 383a
- 35 LOCKE *Human Understanding* bk iii ch x  
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- 35 HUME *Human Understanding* sect 1 DIV 4  
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- 38 MONTESQUIEU *Spirit of Laws* bk xxiv  
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- 38 ROUSSEAU *Inequality* 345a / *Political Econ-  
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- 40 GIBSON *Decline and Fall* 32a b 205d 206a  
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- 41 GIBSON *Decline and Fall* 40b-41a 72c  
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- 42 HANT *Practical Reason* 360d 361d
- 43 FEDERALIST NUMBER 49 159d 160a
- 46 HEGEL *Philosophy of Right* PART 4b 7c /  
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- 48 MILLVILLE *Moby Dick* 107a b
- 54 FRUD CIVILIZATION AND ITS DISCONTENTS 780a b
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- 7 PLATO *Euthydemus* 84a c / *Phaedrus* 125b-  
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- 8 ARISTOTLE *Posterior Analytics* bk ch 9  
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8 16] 222a / *Heuristics* bk ii 112 [29 324 29]  
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- 9 ARISTOTLE *Ethics* bk i ch 6 [11 06 11 7]  
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- 10 GALEN *On the Faculties* bk i ch 14 178d  
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- 12 EPICTETUS *Discourses* bk i ch 8 113d 114c  
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- 12 AURELIUS *Mediations* BK V SECT 9 270b-c BK VII SECT 3 279d 280a
- 17 PLOTINUS *First Ennead* TR III 10a 12b TR IV CH 4 16 14a 19b / *Fifth Ennead* TR IX CH I 2 246c d
- 25 MONTAIGNE *Essays* 55d 62a esp 60a-c 70d 72a 150c 151a 451a c 539d 540a
- 28 HARVEY *Motion of the Heart* 268a-c / *On Animal Generation* 331c 332a
- 30 BACON *Advancement of Learning* 16a b 26a 27a
- 31 DESCARTES *Discourse* 41a 67a c esp PART II-III 44c 51b = RT VI 60d 67a =
- 33 PASCAL *Pensées* 4 172b
- 35 HUME *Human Understanding* SECT I DIV 6 453b-c
- 37 FIELDING *Tom Jones* 81c 82a
- 40 GIBSON *Decline and Fall* 31d 32b 644b-646a
- 41 GIBSON *Decline and Fall* 526c 527a
- 42 KANT *Practical Reason* 337a 338b
- 46 HEGEL *Philosophy of Right* PREF 1d 2a
- 47 GOETHE *Faust* PART I [614-685] 17a 18a [1868 2050] 44b-48b

6 Praise and dispraise of the philosopher and his work

6a The philosopher as a man of science or wisdom the love and search for truth

- 7 PLATO *Phaedrus* 125b 126c / *Symposium* 163a 168a 169c 172d / *Apology* 200a 212a c / *Phaedo* 222a 224a / *Gorgias* 271a 280d 294d / *Republic* BK II 319 320c BK V-VII 368c 401d / *Timaeus* 476a b / *Theaetetus* 528c 531a / *Sophist* 551a 552c 569 571c / *Seventh Letter* 808 809a
- 8 ARISTOTLE *Metaphysics* BK II CH 2 [291<sup>b</sup> 29] 383b-c / *Metaphysics* BK I CH I-2 499a 501c
- 9 ARISTOTLE *Ethics* K I CH 6 [1096 II 17] 341b BK VI CH 7 [141<sup>b</sup> 9] 390a BK IV CH I [1164<sup>b</sup> 2-6] 417b BK X CH 7 [1177 19-23] 431d-432a / *Politics* BK VII CH 2 [1324<sup>a</sup> 24-34] 528b
- 10 GLEN *Natural Faculties* BK III CH I 207d
- 12 LUCRETIVUS *Nature of Things* K I [62 9] 1d 2a BK III [1 30] 30a b K V [-54] 61a d BK VI [1 41] 80a d
- 12 EPICTETUS *Discourses* K II CH 22 167d 170a CH 24 172d 174b BK I I CH 9 184c 185d CH 21 22 193d 201a BK IV CH 5 228 230b
- 12 AURELIUS *Mediations* BK V SECT 9 270b c
- 14 PLUTARCH *Moralia* 252a 255
- 17 PLOTINUS *First Ennead* TR I 10a 12b / *Fifth Ennead* TR IX CH I 2 246 d
- 18 AUGUSTINE *Confessions* BK II par 8 14d 15a / *City of God* BK VI 113 266 d 110 271a d

- 25 MONTAIGNE *Essays* 55d 62a 70d 72a 150c 151a 446d-450a
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- 30 BACON *Advancement of Learning* 1a 281c 17b 27c
- 31 DESCARTES *Discourse* PART I 41d-42a 43d 44a PART III 50b 51a PART VI 60d-6 ac esp 66d 67a c
- 33 PASCAL *Pensées* 261 221a 327 231a b
- 35 LOCKE *Human Understanding* 87a b
- 35 HUME *Human Understanding* SECT I 4 455b passim esp DIV 2 451b-c DIV 5 10 453b 455b
- 41 GIBSON *Decline and Fall* 526c 527a
- 42 KANT *Practical Reason* 337c 338b / *Metaphysical Elements of Ethics* 365b [in d]
- 46 HEGEL *Philosophy of Right* PREF 1d III

6b The philosopher and the man of opinion sophistry and dogmatism idle disposition perpetual controversy

- 5 ARISTOTLE *Nicomachean Ethics* 488a 506d esp [b 267] 489a-491a [412 476] 493c-494b
- 7 PLATO *Laches* 35a / *Protagoras* 42a-43b / *Euthydemus* 65a 84a = / *Gorgias* 271b-2 3b / *Republic* BK I 300b 301c BK VI 379d / *Theaetetus* 518d 519a 525d 526b / *Sophist* 551a 579d
- 9 ARISTOTLE *Ethics* BK IV CH I [1164<sup>a</sup> 21] 417a b BK X CH 9 [1180<sup>b</sup> 29-1181<sup>b</sup> 12] 435b 436a c
- 10 GALEN *Natural Faculties* BK I CH 13 1 175a CH 14 15 177a 179d esp CH 14 178d 179a BK II CH 9 199a c
- 12 EPICTETUS *Discourses* BK I CH 8 113d 114c CH 25 26 129d 132b BK II CH 17 158d 161a CH 19-20 162c 166c BK III CH 2 117c 118d CH 21 193d 195a BK IV CH 8 235b-237d
- 14 PLUTARCH *Marcus Cato* 287d 288c / *Alexander* 566a 567d
- 23 HOBBS *Leviathan* PART I 49d 54b 56d 57c d 59a 60a 71a II 84a PART II 153a b PART IV 267a 274d passim 276c
- 24 RABELAIS *Gargantua and Pantagruel* BK I 18b 24a BK II 78b 80d 101b 106a 124d 125b BK III 197b 200d
- 25 MONTAIGNE *Essays* 55d 62a 74d 77d 89c d 239d 294b passim esp 240c 246a 257d 264a 276b 278a 448d 449a 517b-519a
- 30 BACON *Advancement of Learning* I 28d esp 2c 17b 57d 58b 66c 67c / *Novum Organum* BK I APH 44 110a b APH 54 111c d BK II APH 62-65 113b 114c APH 71 117a-c
- 31 DESCARTES *Rules* II 2 3b X 16d 17a / *Discourse* PART I 43d 44b PART II 46b PART VI 64a c
- 33 PASCAL *Pensées* 327 231a b
- 35 LOCKE *Human Understanding* 89a c BK II CH IV SECT 7 II 260d 262b passim CH VI SECT 24 274c CH VIII SECT 2 284c 285a CH X SECT 2 291d 292a SECT 6-14 293a 293a

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 19 SMITH *Wealth of Nations* BK V 336b 337a  
 31 GIBSON *Decline and Fall* 159a d  
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 11 KANT *Pure Reason* 36a 37d esp 36d 37b  
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 56 HEGEL *Philosophy of Right* REF 2d 4a  
 47 GOETHE *Faust* PART I [1908 1963] 45b 46b  
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 51 TOLSTOY *War and Peace* BK VI 243b  
 53 JAMES *Psychology* 227b 235b  
 54 FREUD *New Introductory Lect* 874  
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 16 PROEM *Almagest* BK I 5a 6a  
 18 AUGUSTINE *Confessions* s BK I par 8 14d 15a  
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 28 BK VI par 6-8 36c 37c / *City of God* BK  
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 21 DANTON *Democritus* PURGATORY [16-  
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 25 MONTAIGNE *Essays* 208a 208a 294b esp 208d  
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 30 BACON *Advancement of Learning* 2-4c 96d  
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 31 DESCARTES *Rules* ■ 2a 3b VIII ■ 14a /  
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 35 BERKELEY *Human Understanding* INTRO SECT  
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 35 HUME *Human Understanding* SECT I 451a

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 37 FIELDING *Tom Jones* 379c 380a  
 40 GIBSON *Decline and Fall* 186a d esp 186c  
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 42 KANT *Pure Reason* 129c 173a esp 133c d  
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 47 GOETHE *Faust* PART I [354-514] 11a 14b  
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 48 MELVILLE *Moby-Dick* 307a  
 31 TOLSTOY *War and Peace* BK VI 242c 243b  
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 52 DOSTOEVSKY *Brothers Karamazov* BK XI  
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 7 PLATO *Protagoras* 54c 55a / *Symposium*  
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 9 ARISTOTLE *Ethics* BK II CH 4 [1105b 5 19]  
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 14 PLUTARCH *Pericles* 130c d / *Marcellus* 252a  
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 25 MONTAIGNE *Essays* 55d 57b 63d 75a  
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 30 BACON *Advancement of Learning* 1a 28d esp  
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 35 BERKELEY *Human Knowledge* ECT 97  
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 35 HEGEL *Human Understanding* SECT D V  
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 36 STERNE *Tristram Shandy* 421b  
 38 ROUSSEAU *Emile* 345a / *Political Economy*  
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 39 SMITH *Wealth of Nations* BK V 335d 337a  
 42 KANT *Pure Reason* 187c 188b / *Ground of  
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 43 MILL *Kepler's Letter to Gergement* 346c 347  
 46 HEGEL *Philosophy of Right* ■ 5c 6a /  
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18 MELVILLE *Moby Dick* 116a 117a 255a

50 MARY ENGELS *Communist Manifesto* 430d 432a

51 TOLSTOY *War and Peace* BK IX 361d 365c

53 JAMES *Psychology* 271a b

54 FREUD *Inhibitions Symptoms and Anxiety* 722a b

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7 PLATO *Protagoras* 54c 55a / *Apology* 200a 212a c / *Phaedo* 240d 242b / *Sophist* 564c 568a / *Seventh Letter* 800a 814d

8 ARISTOTLE *Sophistical Refutations* CH 34 [183<sup>b</sup>16-183<sup>b</sup>8] 253a d / *Physics* BK I CH 2-9 259b 268d / *Heaven* BK I C 110 [279<sup>b</sup>4 12] 370d BK III CH 7 [306<sup>b</sup>6-18] 397b c / *Metaphysics* BK I CH 3 [93<sup>b</sup>24]-BK II CH I [993<sup>b</sup>19] 501c 512a BK XI C 1 6 590d 592b BK XII C 1 8 [1074<sup>b</sup>1 14] 604d 605a CH 10 [1075<sup>b</sup>25 1076 4] 606a d / *Soul* BK I C 12-5 633a 641d

9 ARISTOTLE *Parts of Animals* BK I CH I [612 25 30] 165b c / *Ethics* BK I CH 6 341b 342c / *Politics* BK I CH II [1279<sup>b</sup>5 21] 453b c

10 GALEN *Natural Faculties* BK III CH 10 207b d

12 LUCRETIVS *Nature of Things* BK I [62-79] 1d 2a BK III [1-30] 30a b BK V [1-54] 61a d BK VI [1 34] 80

12 EPICTETUS *Discourses* BK II CH 12 151b-152c BK III CH 2 177c 178d CH 6 182a CH 21 2 193d 201a

14 PLUTARCH *Solo* 65c d / *Themistocles* 88d / *Pericles* 122d 123c / *Marcellus* 252a 255a / *Marcus Cato* 287d 288c / *Sulla* 331c / *Lucullus* 420b d / *Nicias* 435b d / *Alexander* 543b 544a / *Cicero* 705b 720a b

15 TACITUS *Annals* BK X V 153d 155a BK XV 172c 173d

18 AUGUSTINE *City of God* BK VII CH I 12 264b d 273a BK XVI CH 37 493c-494a CH 41 495b-496c BK XIX CH 1 3 507a 511a

19 AQUINAS *Summa Theologiae* CA RT I Q 22 A 1 ANS 128d 130d [44 A 2 AN 239b 240a Q 65 A 4 NS 342b 343c [66 A 1 343d 345c A 2 ANS 315d 347b Q 75 A 1 ANS and E 1 2 378b 379c Q 76 A 1 ANS 385d 388c A 3 AN 391a 393 A 4 REP 4 393a 394c Q 79 A 4 NS 417a-418c Q 84 A 1 ANS 440d 442a A 2 ANS 412b 443c A 4 ANS 444d 446b A 6 AN 447c 449a Q 85 A 2 AN 453d-455b Q 88 A 1 ANS 469a-471c

20 AQUINAS *Summa Theologiae* CA RT II Q 95 A 3 228c 229b Q 97 A 1 ANS 236a d

23 HOBBS *Leviathan* PART I 164a c [RT IV 267c 269b 274c d 276c CONCLUSION 282c d

25 MONTAIGNE *Essays* 65b 66b

28 HUME *Motion of the Heart* 267b d 268d 279d 280c / *On Animal Generation* 336d 337a c

30 BACON *Advancement of Learning* III 101d esp 2c 5a 7b c 9a b 14a 15a 15c d 16c 22a b 23a b 24c 29b [30d 31a 39d-49d 54b-61d 69d 76a 81d 85a 97b-c / *Novum Organum* BK I APH 38 105 109c 128c esp APH 56 112a APH 78 119b c, APH 95-96 126b c

31 DESCARTES *Discourse* 41a-67a c / *Meditations* 70a / *Objections and Replies* 175a 293a [

33 PASCAL *Vacuum* 355a 358b

35 LOCKE *Human Understanding* BK III CH IV SECT 7 10 260d 261d CH VIII SECT 2 284c 285a CH X SECT 2 291d 292a SECT 6-14 293a 295a BK IV CH III SE 1 3 323a c CH VII SECT 11 341a d CH XVII SECT 4 373a b

35 BE KELEY *Human Knowledge* INTRO SECT 17 409d 410a SECT 85 429c SECT 88 430a b SECT 119 436c SECT 143 441c d

35 HUME *Human Understanding* I SECT I DIV 4 451d 452a DIV 4 453a b DIV 8-9 454b-4 5a SECT V DIV 3 463d-464b SECT VII DIV 4<sup>th</sup> 471b c SECT XI DIV 102 497b d SECT XII DIV 122 505d [in 1]

38 MONTESQUIEU *Spirit of Laws* BK XII 169a b BK XIV 202d 203a

38 ROUSSEAU *Inequality* 329a 334a c / *Political Economy* 373d 374a

39 SMITH *Wealth of Nations* BK I 5d 6a BK V 335b 337b 338d 339a

40 GIBSON *Decline of a Fall* 12d 13b 23d 24a 31d 32b 159a d 186a c 204d 206d 30 b-308c 364 d 644b 646a 668d 671b

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42 HANT *Pure Reason* 1a 8b esp 5b 5d 6d 100a d 101d 102a 177b 179b 218d 2b 224a 227a 248d 250a c / *Fundamental Principles of Metaphysics* 273d 274a / *Practical Reason* 299d 307a d 311d 313d 317b-318b 327c d 342c d 335b c 339b-d / *Judicial Reason* 485b 486d 513d 514b 551a 552c 580c-d 600d 601c

43 FEDERALIST NUMBER 9 47a d

43 MILL *Liberty* 274b 293b passim / *Utilitarianism* 445a b

46 HEGEL *Philosophy of Right* PREF 2d 5c / *Philosophy of History* INTRO 158a 159a PART I 218c d 229b d PART II 279d 87a PART III 303 c 308c 309d PART IV 341c 342a 363d 364c

48 MELVILLE *Moby Dick* 213a

50 MARX *Capital* I 25c d 190d [in 2] 301c esp 301d [in 3] 305a 305b [in 2]

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## CROSS REFERENCES

- For Another discussion of the nature of philosophical science see SCIENCE 12 10 and for various conceptions of the highest philosophical knowledge see DIALECTIC 22 KNOWLEDGE 6c(4) METAPHYSICS 1 WISDOM 12
- The relation of philosophy to theology and religion see RELIGION 6b SCIENCE 2 THEOLOGY 42 TRUTH 42
- The relation between philosophy and mathematics see MATHEMATICS 12-15 PHYSICS 15
- The relation of the philosophical to the experimental and empirical sciences see PHYSICS 2-25 PROGRESS 6b SCIENCE 10
- The comparison of philosophy poetry and history see HISTORY 1 POETRY 5b SCIENCE 25
- Discussions relevant to the distinction between theoretic and practical philosophy see JUDGMENT 2 KNOWLEDGE 6c(1) MIND 92 PRUDENCE 22 SCIENCE 32 THEOLOGY 35 4d TRUTH 20 WISDOM 15
- Other treatments of the branches of speculative or natural philosophy and their relation to one another see DIALECTIC 4 LOGIC 1 MAN 25 25(4) MATHEMATICS 12 METAPHYSICS 32-35 PHYSICS 1-22 SCIENCE 14(2) THEOLOGY 32 TRUTH 40
- Other treatments of the branches of practical moral or civil philosophy see KNOWLEDGE 6c(2) 8a-8c LOGIC 40 POETRY 8 SCIENCE 32 STATE 6d WEALTH 9
- Discussions relevant to the method of philosophy see DEFINITION 6a-6c EXPERIENCE 20 42-45 INDUCTION 12 3 KNOWLEDGE 6c(4) LOGIC 4d METAPHYSICS 20 45 PRINCIPLE 3-4 REASONING 6a 60-6d
- The uses of philosophy in the conduct of life and the organization of society see HAPPINESS 25(7) WISDOM 20
- The conception of the philosopher as a man of wisdom or as seeking wisdom see TRUTH 80 WISDOM 3 and for the comparison of philosophical with supernatural wisdom see THEOLOGY 2 WISDOM 1d
- The association or contrast of the philosopher with the sophist the rhetorician or the dogmatist see DIALECTIC 6 METAPHYSICS 42 ORIGIN 45 RHETORIC 12 WISDOM 3
- The comparison of progress in philosophy and science and for the conditions of progress in philosophy see PROGRESS 6b-6c

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the ideas and topics with which this chapter deals. The works are divided into two groups:

- I Works by authors represented in this collection  
 II Works by authors not represented in this collection

For the date place and other facts concerning the publication of the works cited consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

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- W J MIES *Pragmatism* LECT I-II  
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## Chapter 67 PHYSICS

### INTRODUCTION

CONCERNING the subject matter of physics one thing seems to be traditionally taken for granted. The object of its study is the sensible world of changing things or matter in motion. When Plato for example conceives astronomy as dealing not with the actual and observable motions of the heavenly bodies but with the possible forms of the motions of solids he gives it the character of a mathematical rather than a physical science. He associates it with geometry as for a similar reason he associates music—divorced from concern with audible harmonies—with arithmetic. In anyone's view if a science does not investigate sensible realities if it does not undertake to account for the motions of actual bodies or stated most generally if it has no concern with the phenomena of change then it does not have the character of physical or natural science.

The early Greek physicists the pre-Socratics to whom Plato and Aristotle refer inaugurate the study of change with speculations about ultimate origins the underlying principles or causes of natural phenomena. Sometimes they are called philosophers and sometimes scientists—or at least precursors of empirical science. But there seems to be no difference of opinion about their title as physicists. Their undisputed claim to this title derives not from the method they employ but from the object they study—change. In that primary meaning of the word nature which comes from the Latin *natura*—the equivalent of *physis* in Greek—they can be called naturalists or physicists indifferently. The realm of nature is the realm of change.

It is for this reason that Aristotle considering the theories of his predecessors in the opening chapters of his *Physics* sets Parmenides apart from all the rest. Parmenides' affirmation of the unity of being which leads to his denial

of the reality of change or motion cannot be treated as a physical theory. On the contrary it is according to Aristotle a complete negation of the subject matter of physics. No matter what other points physicists may dispute among themselves they must all at least agree in taking a stand against Parmenides. Aristotle does not even seem to think that a book on physics is the proper place to argue against Parmenides. That argument belongs to another part of philosophy. The reality of change seems to him sufficiently evident to assure the physicist that he has a subject matter to investigate.

THE QUESTION whether the early physicists were scientists or philosophers calls attention to different methods of investigating natural phenomena. Agreement on the subject matter of physics may prevail therefore only in very general terms. When in a manner to accord with the method employed the object of physical inquiry is more specifically defined there seem to be two physics not one—a philosophical and a scientific physics, a philosophy of nature and a natural science or to use Kant's phrasing a rational or pure physics and an empirical or experimental physics.

Though Newton may call his work a philosophy of nature he also refers to it as an experimental philosophy in order to distinguish it from the work of earlier natural philosophers who did not perform experiments. The difference between the physics of Newton and that of Aristotle seems however to involve more than a divergence in method. The problems which Newton and Aristotle try to solve indicate a difference in subject matter as well. Nevertheless this difference falls within what in the most general term must be conceived as the domain of physics. For all their

ences both are physicists though both are not philosophers or scientists in the same sense

There are other sources of variation in the definition of physics. The problem of the relation of physics to other disciplines—whether these are other branches of philosophy or other fields of empirical research—raises issues about the object and scope of physics. Aristotle, Bacon, Descartes and Kant for example do not seem to have a common understanding of the relation of physics to mathematics and metaphysics. In consequence they conceive physics itself differently.

On the level of empirical research, physics is sometimes regarded as just one of the natural sciences and sometimes as the whole group of natural sciences. In the latter case it includes such fields as astronomy, mechanics, optics, acoustics, thermodynamics, magnetism and electricity and sometimes chemistry, biology and even psychology are included under the head of physical or natural sciences, contrasted in the broadest terms to the social sciences. The conception of physics obviously changes when its scope is determined by a boundary line which separates it from chemistry or from biology and psychology or from the study of society.

The separation of these other sciences from physics does not necessarily imply a discontinuity in nature or the natural sciences. The biologist and the psychologist for example consider the physical bases of life and the physical conditions or correlates of mental phenomena. Hybrid sciences like biophysics and psychophysics have developed. Even the study of society draws upon physics to the extent that the laws of matter in motion and considerations of space and time must be appealed to for an understanding of the physical foundations of economic and political life.

OTHER CHAPTERS DEAL with specific physical sciences e.g. ASTRONOMY and MECHANICS. The latter tries to cover the various branches of mechanics and related fields of study such as dynamics, optics, the theory of heat, magnetism and electricity particularly so far as these are represented in the work of Galileo, Newton, Huygens, Gilbert, Foucault and Faraday. The basic concepts of mechanics and its

branches or affiliates are also treated in that chapter. Still other chapters deal with fundamental terms representing concepts or problems in the larger domain of physics: philosophical or scientific e.g. CAUSE, CHANGE, ELEMENT, INFINITY, MATTER, PRINCIPLE, QUANTITY, SPACE and TIME—not to mention NATURE and WORLD—terms which represent in the most comprehensive way the reality studied by the physicist.

Our discussion here can therefore be restricted to the problems raised in the great books concerning the conception of physics its subject matter and method, its relation to other sciences or other parts of philosophy. It will lead to such questions as whether physics is supreme among the sciences studying reality or the nature of things and at the other extreme whether physics is at all possible as a science, whether there can be scientific knowledge of bodies in motion or of the whole realm of change and becoming.

The problem of the distinction between philosophical and scientific physics would appear to be only a special case of the distinction between philosophy and science in general. But it is more than that. It is the case which tests the main distinction itself, since here both philosopher and scientist claim to be expounding the same subject matter or at least to be dealing with the same general field of phenomena.

Mathematics and metaphysics bear on the distinction between philosophy and science in a different way. If for example we take experimentation or empirical research to be characteristic of science in distinction from philosophy, then mathematics would seem to resemble philosophy rather than science. On no understanding of the nature of mathematical knowledge is mathematics ever divided into two kinds which are capable of being described as empirical and rational. The possibility of metaphysical knowledge may be challenged but no one has ever proposed an experimental metaphysics to challenge the metaphysics of the philosophers.

But physics seems to permit both an experimental and a philosophical treatment. Whether they are to be regarded as in conflict with one another depends on whether they are attacking

the same problems by different methods or whether they represent something like a division of labor. In the latter view each would deal according to its method with different problems and tend to supplement rather than to exclude the other. Psychology is another subject matter which seems to receive a dual treatment—philosophical and experimental—in the tradition of the great books. It raises issues similar to those just mentioned. They are considered in the chapter on *MAY*.

As the chapters on *PHILOSOPHY* and on *SCIENCE* indicate the discussion of their difference from and relation to one another is complicated by the double use of both terms. The word *science* for example is used for both the philosophical and the experimental sciences throughout the greater part of the tradition. Similarly until quite recently the name of philosopher is taken by those who experiment as well as by those who do not.

It is impossible therefore to speak without confusion of a scientific and a philosophical physics unless the verbal ambiguities are resolved by some convention such as the understanding that when the context indicates that the words *science* and *philosophy* are being used as opposites rather than as synonyms then *science* shall signify the experimental and *philosophy* the non experimental mode of treatment. Beyond this it is necessary to proceed as if the chapters on *PHILOSOPHY* and *SCIENCE* formed a background for some of the matters to be discussed here. Otherwise the consideration of natural philosophy and natural science would tend to become a general discussion of philosophy and science.

THE GREAT BOOKS of experimental physics seem to have three characteristics in common. First and most naturally they insist upon experimentation as either the indispensable source or the ultimate test of scientific formulations. Second they tend to rely upon mathematics as much as upon experiment both for the formulation of nature's laws and for the demonstration of the consequences or corollaries of the primary laws. Third though experiments and observations multiply as science develops they seek to bring all the phenomena of nature under the smallest number of generalizations

which have the utmost simplicity in mathematical statement.

On the second and third points Newton's declarations seem to be most explicit. Nature he says is pleased with simplicity and affects not the pomp of superfluous causes. Accordingly Newton directs his efforts toward the simplest statement of the laws of motion and these he seeks to give the universality requisite for covering every type of natural phenomenon. At the opening of the third book of the *Mathematical Principles of Natural Philosophy* he explains that in the preceding books he has laid down the principles of philosophy principles not philosophical but mathematical such namely as we may build our reasonings upon in philosophical inquiries. These principles are the laws and conditions of certain motions and powers or forces. From these same principles he will now undertake to demonstrate the frame of the System of the World.

In the Preface to the first edition of this work Newton describes the third book as one in which he derives from the celestial phenomena the forces of gravity with which bodies tend to the sun and the several planets. Then from these forces by other propositions which are also mathematical he goes on: "I deduce the motions of the planets the comets the moon the sea. But he does not consider his work to have attained the goal of physics—the comprehension of all natural phenomena by a few simple mathematical formulae."

His confession of failure may also be read as a prognostication of what an experimental physics based on mathematical principles might some day be able to achieve. "I wish we could derive the rest of the phenomena of nature by the same kind of reasoning," he writes,

for I am induced by many reasons to suspect that they may all depend upon certain forces by which the particles of bodies by some causes hitherto unknown are either mutually impelled towards one another and cohere in regular figures or are repelled and recede from one another. Einstein's unified field equations covering both gravitational phenomena on the astronomical scale and the electrical attractions and repulsions of sub-atomic particles seem to realize or at least closely to approximate the ideal Newton has in mind.



Midway between Newton and Einstein Fourier also bears testimony to the ideal of physics as a science at once simple in its principles and universal in the scope of their application. The successors of Newton and Galileo he writes have extended their theories and given them an admirable perfection: they have taught us that the most diverse phenomena are subject to a small number of universal laws which are reproduced in all the acts of nature. It is recognized that the same principles regulate all the movements of the stars, their form, the inequalities of their courses, the equilibrium and the oscillations of the seas, the harmonic vibrations of air and sonorous bodies, the transmission of light, capillary actions, the undulations of fluids, in fine the most complex effects of all natural forces. Thus has the thought of Newton been confirmed: he concludes referring to Newton's praise of geometry, whose glory it is that the few mathematical principles it provided for use in physics should have been able to produce so many things.

ON THE EXPERIMENTAL SIDE the great works of physical science seem to contain diverse notions of the purposes served by experimentation, accompanied by a fairly uniform recognition of the dependence of natural science upon experiment. In the field of magnetism, for example, Gilbert sets aside as unscientific all those authors who have written about amber and jet as attracting chaff, but with never a proof from experiments. These writers deal only in words. Such philosophy bears no fruit. The fruitfulness of experiments on the vacuum, the equilibrium of fluids and the weight of air leads Pascal to conclude that the secrets of nature remain hidden until the experiments which supply us with knowledge about it can be performed and multiplied.

We ought never to search for truth but by the natural road of experiment and observation, writes Lavoisier, and Faraday describes himself as an experimentalist who feels bound to let experiment guide me into any train of thought which it may justify. The science of electricity, he finds, is in that state in which every part of it requires experimental investigation, not merely for the discovery of new effects, but ultimately for the more ac-

curate determination of the first principles of action of the most extraordinary and universal power in nature.

Methods of experimentation necessarily differ in different fields of physical research. Newton's optical experiments with mirrors and prisms were adapted to the phenomena of light, as Galileo's experiment with the inclined plane, Pascal's experiment on the equilibrium of fluids, or Faraday's experiments with induction coils were adapted to the phenomena of dynamics, hydrostatics and electricity. The materials employed, the apparatus or instruments devised, the factors controlled or isolated from irrelevant circumstances and the units of measurement in which the results are recorded, naturally vary with the phenomena under observation. Yet one thing is common to the variety of experiments described in the great books of physical science. They all involve the construction of an artificial physical system which permits more accurate and refined observation than does nature uncontrolled or tampered with.

The student of nature must observe in any case, no matter whether he is a philosopher or a scientist. To say that philosophical physics is non-experimental does not mean for Aristotle that knowledge of nature is possible without observation or induction from experience. But the experimentalists insist upon the distinction between the kind of observations which men normally make in the course of everyday experience and the kind which involve the special experience enjoyed only by those who observe and in addition measure the results of specially contrived experiments.

This point of distinction seems to be strikingly illustrated by a passage in Galileo's *Two New Sciences*. One of the persons in the dialogue Simplicio declares everyday experience to show the propagation of light to be instantaneous. He explains that when we see a piece of artillery fired at a great distance, the flash reaches our eyes without lapse of time, but the sound reaches the ear only after a noticeable interval. Sagredo replies that this familiar bit of experience permits him to infer only that sound in reaching our ear travels more slowly than light. It does not inform us, he says, whether the coming of light is instantane-

neous or whether although extremely rapid it still occupies time. The choice between these alternatives could not be determined by ordinary experience. An experiment had to be constructed in order to measure the velocity of light.

Recourse to experimentation to find by observation and measurement the answers which ordinary experience fails to yield does not exhaust the uses of experiment. The great experimental physicists indicate at least three distinct uses to which experiments can be put in addition to a merely exploratory use for the discovery of new effects.

In natural philosophy as in mathematics writes Newton the method of analysis ought ever to precede the method of composition or synthesis. In physics the method of analysis consists in making experiments and observations and in drawing conclusions from them by induction. In contrast the synthetic method begins with the principles assumed therefrom explaining the phenomena and proving the explanations.

Here experiments perform a probative rather than an inductive function. As Huygens observes proof in physics does not have the certitude of mathematical demonstration but it can have an extremely high degree of probability—very often scarcely less than complete proof—as a result of the experimental confirmation of a conclusion deduced from the assumed principles. This occurs when things which have been demonstrated by the principles that have been assumed correspond perfectly to the phenomena which experiment has brought under observation especially when there are a great number of them. A single crucial experiment so perfect in construction that all relevant factors have been controlled makes unnecessary the multiplication of experiments to establish the conclusion.

A third use of experiment is illustrated by Galileo when he measures the velocity of a ball rolling down an inclined plane in order to decide whether a certain mathematical definition of uniformly accelerated motion describes the acceleration which one meets in nature in the case of falling bodies. The persons in the dialogue seem to be satisfied with some mathematical reasoning which shows that the velocity

increases with the units of time elapsed rather than with the intervals of space traversed. But when Simplicio asks for an experiment to show that the mathematical conclusion has physical reality in the sense of describing observable phenomena Salviati replies that this request is a very reasonable one for this is the custom—and properly so—in those sciences where mathematical demonstrations are applied to natural phenomena and where the principles once established by well chosen experiments become the foundations of the entire superstructure. Here experiment does not confirm conclusions. It establishes principles not by inductive generalization but by comparing actual measurements with mathematical expectations.

WITHOUT EXPERIMENT but not without inductions from experience without measurements but not without recourse to observation Aristotle's *Physics*—and with it such physical treatises as his works *On the Heavens* and *On Generation and Corruption*—represents a philosophy of nature. In Aristotle's meaning of the term science these treatises expound sciences but they also constitute one part of philosophy to be distinguished from mathematics and from what Aristotle regards as the first or highest part of philosophy *sc* the science of metaphysics.

Aristotle's tripartite division of the theoretic sciences or speculative philosophy into physics, mathematics and metaphysics raises a question concerning his numerous biological works and perhaps also his treatise *On the Soul*. Are these to be classified as physical sciences or parts of natural philosophy? The fact that Aristotle distinguishes between the forms and properties of living and non living matter does not seem to affect the answer. By his criteria of physical inquiry—namely that it investigates what neither exists nor can be conceived apart from matter and motion and that it is concerned with every type of change—all these works belong to the domain of physics. Accordingly even such apparently psychological studies as those dealing with sensation, memory, dreams justify the title under which they have been traditionally grouped—*Parva Naturalia*—the short physical treatises.

For all these more specialized considerations of natural phenomena the *Physics* seems to serve as a general introduction as well as being in its own right an exposition of the most fundamental science in the sphere of natural philosophy. It tries to define change and to state the principles underlying every type of change. It tries to classify the types of change separating coming to be and passing away simply (or generation and corruption) from coming to be in a special respect (or change in quality, quantity, and place) which Aristotle usually calls motion in distinction from becoming or generation. It undertakes to analyze the conditions or causes of change or motion to distinguish what happens by chance from what happens by necessity to discriminate between natural and unnatural or violent motions to treat the relation of mover and moved to deal with the continuity and divisibility of motions to consider place and time as conditions or aspects of motion and to ask about the infinity of body and of change and about the eternity of motion or the whole order of becoming the natural world of things in motion.

Aristotle's physics thus seems to stand in sharp contrast to the physics of the experimentalists not merely in method but in the questions it tries to answer and in the principles to which it appeals. The effort to define change in general and to state the principles and causes operative in every type of change might appear to correspond to the search for formulae of maximum generality to cover all natural phenomena. But where Newton and Fourier hope thereby to reduce nature's variety to the simplest terms—a few laws of motion comprehending the whole framework of nature—Aristotle tends on the contrary to insist upon an irreducible variety of types of motion, kinds of matter, and causes of change.

Furthermore the principles to which Aristotle appeals are not mathematical. He criticizes the discussion of becoming which takes place in Plato's *Timaeus* on the ground that it tries to substitute mathematical for physical terms in the analysis of change. Physical bodies contain surfaces and volumes, lines and points, he writes, and these are the subject matter of mathematics, but the mathematician is not concerned with these things as the attributes of

physical bodies but only as separated in thought at least from matter and motion. There are sciences which represent mixtures of mathematics and physics such as optics and harmonics but the existence of these mixed sciences—the equivalent of what is later called mathematical physics—seems to Aristotle to imply rather than deny the separation of purely physical science from pure mathematics.

Where Newton (who can be taken as the exemplary author of a physics which is at once mathematical and experimental) goes to mathematics for the principles of natural philosophy, Aristotle seems to think that physics has its own proper principles. If any deeper understanding of these principles is sought, it is not to be found in mathematics but in metaphysics or what Aristotle calls the first philosophy.

For example matter, form, and privation are proposed by Aristotle as the basic physical principles. In such terms he is able to state his insight that all change involves a substratum (or that *which* changes) and contraries (or that *from which* and that *to which* the change occurs). But the analysis of matter and form in terms of potentiality and actuality as modes of being and the consideration of form and privation in terms of being and non-being belong to metaphysics rather than physics.

Furthermore Aristotle as a physicist deals with bodies in motion and with the difference between the generation of bodies and their alteration, increase and decrease or change of place. But he leaves to metaphysics—to the books which come after the books on physics—the discussion of physical bodies as substances, composite of matter and form, and the distinction of substance and accident which bears on the difference between substantial and accidental change (i.e. generation and corruption as opposed to the change in quality, quantity, or place).

Though for Aristotle physics is as separate from metaphysics as it is from mathematics, the subject matter physics depends upon metaphysics as it does not upon mathematics for the establishment as well as the elucidation of its principles. It is in this sense that metaphysics is logically prior to physics. But there may also be a sense in which philosophical physics is

logically prior to experimental natural science. To the extent that the experimentalist employs physical as opposed to mathematical principles he may have to derive these from a philosophy of nature. Galileo for example investigates the properties of natural and violent motions in the Third and Fourth Day of his *Two New Sciences* (i.e. the motions of freely falling bodies and of projectiles). The problem of establishing the reality of this distinction and of defining the natural and the non natural types of motion seems to be a matter of philosophical analysis rather than of experimental investigation.

BACON and KANT appear to agree with Aristotle about the separation of physics from mathematics. Rational (or pure as opposed to empirical) physics is according to Kant entirely separate from mathematics. It is not to be confused with what is commonly called *physica generalis* which is mathematics rather than a philosophy of nature. Criticizing the natural philosophy of the ancients because it is corrupted by logic in the school of Aristotle and by mathematics in the school of Plato, Bacon says that mathematics should terminate natural philosophy rather than generate or create it. We may hope for better results, he adds, from pure and unmixed natural philosophy.

Bacon elsewhere observes that the investigation of nature is best conducted when mathematics are applied to physics. He does not deny the great use of mathematics in physics but rather insists that mathematics be regarded as an appendage or auxiliary of natural philosophy not its master. He is writing against the mathematicians who would have their science preside over physics.

But to whatever extent Aristotle, Bacon and Kant are in agreement concerning the relation of physics and mathematics their theories of the scope and subject matter of physics seem to be at variance. For Bacon physics is only one of the theoretic parts of natural philosophy, the other is metaphysics. Both are sciences of nature or the physical world though one investigates material and efficient the other formal and final causes. Both studies moreover can be conducted experimentally and can yield practical results (in mechanics and

what Bacon calls magic) through the production of effects by the application of a knowledge of causes.

For Kant the whole body of theoretical knowledge which is rational and *a priori* not empirical and *a posteriori* is the metaphysics of nature of which one part is rational physics and the other rational psychology. The metaphysics of corporeal nature he writes is called *physic* or because it must contain the principles of an *a priori* knowledge of nature only *rational physic*. Here physics and metaphysics do not have distinct objects as they do for Aristotle nor does Kant's conception of physics as purely *a priori* knowledge of nature seem to agree with Aristotle's conception of physics as inductive and empirical if not experimental.

These issues concerning the relation of physics to mathematics and metaphysics have significance for the experimental as well as the philosophical study of nature. If for example following the position taken by Hume metaphysical inquiry is dismissed as incapable of yielding knowledge and mathematical knowledge is restricted to the realm of ideal entities then natural science which for Hume consists in experimental reasoning about matters of fact becomes the only knowledge of reality. Even though Hume looks upon the conclusions of experimental reasoning as at best probable it remains the case that questions about nature which cannot be answered by physics cannot be answered scientifically.

The effect is the same as that achieved by Hobbes who makes physics the primary science of reality on the ground that nothing exists except bodies in motion. The assertion of the primacy of physics in short may be due either to the denial that immaterial objects can be known by us or to the denial that such objects have any real existence. Of quite opposite tenor is the view that only immaterial and eternal things can be scientifically known and that the sensible world of things which come to be pass away and are forever undergoing change belongs to the realm of probability and opinion not knowledge.

For Plato mathematics and dialectic are respectively science and wisdom because they study the intelligible reality of being in its im-

mutable forms. But the physicists who try to give an account of becoming in all its changing sensible appearances can do no better than adduce probabilities as likely as any others.

On such matters Timaeus says we ought to accept a tale which is probable and inquire no further. After discoursing at length of physical matters Timaeus apologizes for the merely conjectural character of his account of natural phenomena, saying that a man may sometimes set aside meditations about eternal things and for recreation turn to consider the truths of becoming which are probable only; he will thus gain a pleasure not to be repented of and secure for himself a wise and moderate pastime.

This view goes further than Hume's in deprecating physics by contrasting its probabil-

ity with the certitude of mathematics. It praises mathematics and dialectic as Hume's theory does not for something more than their certitude—for their being knowledge of reality rather than of appearances.

Furthermore Hume, unlike Plato, does not think the probability of physics detracts from its utility: the sort of utility which Bacon magnifies more eloquently than Hume—the invention of machines and the technical applications of physics whereby man extends his dominion over nature. In the traditional discussion of the dignity and value of physics, Plato and Bacon seem to represent attitudes as far apart as are the theories of Aristotle and Newton in the discussion of the subject matter and method of physics.

## OUTLINE OF TOPICS

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Iliad* BK II [165-183] 12d the number 4 is the number of the volume in the set, the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTION** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a-119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left-hand side of the page, the letters c and d to the upper and lower halves of the right-hand side of the page. For example in 7 PLATO *Symposium* 163b-164c the passage begins in the lower half of the left-hand side of page 163 and ends in the upper half of the right-hand side of page 164.

**AUTHOR'S DIVISIONS** One or more of the main divisions of a work (such as PART, BOOK, CHAPTER, SECTION) are sometimes included in the reference. Line numbers in brackets are given in certain cases, e.g. *Iliad* BK II [63-83] 12d.

**BIBLE REFERENCES** The references refer to book, chapter and verse. When the KJ, James and Douay versions are used in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows, e.g. OLD TESTAMENT *Nehemiah* 7:45—(D) *II Esdras* 7:46.

**SYMBOLS** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole. Hence *passim* signifies that the topic is discussed intermittently rather than continuously in the works or passage cited.

**For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.**

# 1 Physics as the general theory of becoming and the order of nature or changing philosophical physics the philosophy of nature pure or rational physics

7 PLATO *Republic* K VII 391b-398c / *Timaeus* 447-477a

8 ARISTOTLE *Physics* BK I CH I 259a b CH 2 [184<sup>b</sup> 5 185 19] 259 260a CH III [192 33 2<sup>a</sup>] 268c d CH IV CH 2 270a 271a CH 7-9 275b-278a CH III CH [2 1<sup>a</sup> 4] 278a CH 5 [2 4 34<sup>b</sup> 3] 282b c BK V CH I [8<sup>a</sup> 27 33] 287 BK VI CH 3 [253 32 36] 337 / *Heaven* BK I CH I [268 7] 359a CH 5 [27<sup>b</sup> 8] 362 d BK II CH [98<sup>b</sup> 13-30] 390a b CH 7 [3 6<sup>a</sup> 18] 397b c / *Meteorology* BK I CH 9 [99<sup>a</sup> 29-39] 510 d BK II CH 3 [995 5 0] 513d BK VI CH I 547b d 548c BK VII CH I [37 0-8] 560d BK X CH 3 [1 61 29-31<sup>a</sup>] 589c d CH 4 589d 590a CH 7 592b 593a / *Soul* BK I CH I [403<sup>a</sup> 25 19] 632b d / *Sensory and the Sensible* CH I [436 16-22] 673b / *With Life* d BATH CH 27 [48<sup>b</sup> 1 31] 726d

9 ARISTOTLE *Physics* BK I CH I 161a 165d esp [639<sup>b</sup> 64] 162 b

16 PTOLEMY *Astronomy* K 5 6a

18 AUGUSTIN *City of God* BK V CH 2 265b-

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19 AQUINAS *Summa Theologica* PART I Q. A. I REP 2 3b 4a

23 HOMER *Leviathan* PART II 71 d 72 d PART IV 271d

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35 LOCKE *Human Understanding* CH V CH IV CT I- 394d SECT 5 395c

35 BARKER *Human Knowledge* SECT III 17 432c 436b

42 KANT *Principles of Reason* 3a 13d esp 5d 6 18d III / *Fundamental Principles of Metaphysics of Morals* 253 d 271a / *Judgment* 578a b

53 JA *Psychology* 882 886a 889a 890

## 1a The relation of the philosophy of nature to metaphysics and dialectic

7 PLATO *Phaedo* 240d 242b / *Republic* BK VI 385 388a K VII 391b 398

8 ARISTOTLE *Physics* BK I CH I [8<sup>a</sup> 5 185 19] 259 260 CH 9 [19 33<sup>b</sup>] 263 d CH 2 [94<sup>b</sup> 15] 271 CH 7 [98<sup>a</sup> 3] 275b c BK III CH 5 [1 34 33] 282b c BK VII CH I

- (1) *Physics as the general theory of becoming and the order of nature: change philosophical physics the philosophy of nature pure or rational physics 1a The relation of the philosophy of nature to metaphysics and dialectic*

- [250<sup>b</sup>11 251<sup>8</sup>] 334a c / *Heavens* BK III CH I [258<sup>b</sup>13 30] 390a b / *Metaphysics* BK I CH 8 [989<sup>b</sup>21-990<sup>8</sup>] 507d 508a BK II CH 3 [995 15 20] 513d BK VI CH I 547b d 548c BK VII CH II [1037 10-18] 560d BK XI CH 3 [1061<sup>a</sup>29-112] 589c d CH 4 589d 590a CH 7 592b 593a BK XII CH I [1069 30<sup>b</sup>] 598b c / *Soul* KI CH I [103 5<sup>b</sup>19] 632b d
- 16 PTOLEMY *Almagest* BK I 5a 6a
- 19 AQUINAS *Summa Theologiae* PART I Q 85 A I REP 2 451c 453c
- 23 HOBBS *Leviathan* PART I 72a d
- 30 BACON *Advancement of Learning* 33b 34b 42c-43d / *Novum Organum* BK II APH I 137a APH 9 140b-c
- 42 KANT *Pure Reason* 17d 19a / *Fund. Princ. Metaphysic of Morals* 253a d / *Practical Reason* 351b 352c / *Judgment* 561c 562a c 578a b
- 51 TOLSTOY *War and Peace* EPILOGUE II 693d 694d
- 53 JAMES *Psychology* 862a 866a 884b 886a esp 886a

- 1b The relation of the philosophy of nature to mathematics mathematical method and mathematical principles in natural philosophy

- 7 PLATO *Republic* K VII 391b 398c / *Timaeus* 449b-450b 453b 454a 458a-460b
- 8 ARISTOTLE *Physics* BK III CH 2 270a 271a CH 9 [2 0 15 29] 277c d / *Heavens* BK III CH I [299 1 300 9] 390b 391c / *Metaphysics* BK I CH 9 [99 29-39] 510c d BK II CH 3 513c d K VI CH 547b d 548c BK XI CH 3 [1061 29]-CH 4 [61<sup>b</sup>33] 589c 590a CH 7 592b 593 BK XII CH I [1073<sup>b</sup>1 17] 603d 604a BK XIII CH 3 609 610a / *Soul* BK I CH I [403<sup>b</sup>10 19] 632d
- 9 ARISTOTLE *Parts of Animals* BK I CH [639<sup>b</sup> 6-12] 161c d
- 11 NICOMACHUS *Arithmetic* BK I 812b d 813d 814a
- 19 AQUINAS *Summa Theologiae* PART I Q I A I REP 2 3b-4a Q 7 A 3 ANS 32c 33c
- 23 HOBBS *Leviathan* PART I 72a d PART IV 268c d
- 28 GALILEO *Two New Sciences* FIRST DAY 133b THIRD DAY 236d 237 FOURTH DAY 252a II
- 31 DESCARTES *Rule* IV 7a c XIV 31 d / *Objections and Replies* 169c 170a
- 34 NEWTON *Principles* 1a 2a K III 269
- 42 KANT *Pure Reason* 5a 13d 17d 19a 211c 218d

- 51 TOLSTOY *War and Peace* EPILOGUE II 695b c
- 53 JAMES *Psychology* 882a 883a

- 2 Experimental physics and the empirical natural sciences the relation of experimental and philosophical physics

- 7 PLATO *Republic* BK VII 391b 398c
- 8 ARISTOTLE *Heavens* BK II CH 13 [293 13 31] 384d BK III CH 7 [306 3 18] 397b-c / *Generation and Corruption* BK I CH 2 [316 5 14] 411c d
- 9 ARISTOTLE *Parts of Animals* BK I CH I 161a 165d esp [639<sup>b</sup>32-640 10] 162a II
- 28 GILBERT *Loadstone* PREF 1a b BK II 27b c
- 28 GALILEO *Two New Sciences* THIRD DAY 202d 203a 214d
- 30 BACON *Advancement of Learning* 16a b 30d 31a 33b 34b 42a-43d 46c-47c / *Novum Organum* PREF 105a 106d BK I APH 13 108a APH 51 111c APH 54 111c d APH 63-64 113d 114b APH 66 114d 115c APH 80 120 b APH 95 126b BK II APH 107 128c APH 109 128d 129c BK II APH I 10 137a 140d esp APH I 137a APH 9 140b II
- 31 D SCARTES *Discourse* PART VI 61d 62c
- 34 NEWTON *Principles* 1a 2a BK III 269a RULE III IV 270b 271b GENERAL SCIENCE 371b 372a / *Optics* BK III 542a 543b
- 35 LOCKE *Human Understanding* BK IV CH III SECT 24 29 320c 323a esp SECT 26 321b c CH VI SECT 13 335c d CH VII SECT 9 13 360d 362d passim esp SECT 10 361b-c
- 35 BERKELEY *Human Knowledge* SECT 59 42b
- 35 HUMPHREY *Human Understanding* SECT I DIV 23 27 459a 460d esp DIV 6 460b c SECT II DIV 131 132 508d 509d
- 39 SMITH *Wealth of Nations* BK V 336b-c
- 41 GIBSON *Decline and Fall* 299a
- 42 KANT *Pure Reason* 5a 13d esp 5c 6c 17d 19a / *Fund. Princ. Metaphysic of Morals* 253a d / *Intro. Metaphysic of Morals* 387a b / *Judgment* 561 562a c 578a II
- 45 LAVOISIER *Elements of Chemistry* PREF 1c 2d
- 49 DARWIN *Origin of Species* 239c
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- 53 JAMES *Psychology* XIIIb-XIV 883b
- 54 FREUD *Narcissism* 400d-401a / *General Introduction* 545c d / *Inhibitions, Symptoms and Anxiety* 722a II / *New Introductory Lectures* 873d 875a esp 874d 875a

- 2a The derivation of definitions and distinctions and principles from the philosophy of nature the metaphysics of the scientist

- 8 ARISTOTLE *Heavens* BK III CH 7 [306<sup>b</sup>3 18] 397b-c / *Sense and the Sensible* CH I [436 16-17] 673b II / *Youth, Life and Breeding* CH 27 [480<sup>b</sup>21 30] 726d
- 10 HIPPOCRATES *Ancient Medicine* part 1 2 1a d
- 28 GILBERT *Loadstone* BK V 104b 105d BK VI 109a b

- 28 GALILEO *Two New Sciences* FIRST DAY  
135b 136b THIRD DAY 197a b 200a c
- 33 P SCAL *Vacuum* 366a 368b
- 34 NEWTON *Principles* BK III RULE I III 270a  
271a GENERAL SCHOL 369b 372a / *Optics*  
BK I 409b BK III 540a 541b 542a
- 34 HUYGENS *Light* CH I 553b 554a
- BERK LEY *Human Knowledge* S CT I 2  
432d-433a
- 42 KANT *Intro Metaphysic of Morals* 387a b
- 45 LAVOISIER *Elements of Chemistry* PART I  
36b 41b c
- 45 FOURIER *Theory of Heat* 172a
- FAR DAY *Researches in Electricity* 582b 584a  
595a 670a 673d 824a b 837b-c 839b c
- 53 J S *Psychology* viib viiia 69b 70a 84a  
119b esp 89b 90a 95a 882a 886a 889a 890a
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- 2b The treatment of causes in philosophical  
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- 7 PLATO *Phaedrus* 240d 246c / *Republic* BK  
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- 8 A ISTOTL *Posterior Analytics* 97a 137a c  
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8-30] 500 BK III CH 2 [996 18<sup>26</sup>] 514d  
515b BK VI CH I [1025<sup>1</sup>-18] 547b d K VII  
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1064 9] 592b
- 9 A ISTOTL *Parts of Animals* K I CH I  
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A I R P 2 175d 178a Q 57 A 3 ANS 297b-  
298a Q 86 A 4 ANS 463d-464d
- 23 HO B *Leviathan* PART I 60 b PART IV  
267a b
- 28 G BERT *Leadstone* BK I 6a 7a BK II  
27b
- 28 GALILEO *Two New Sciences* THIRD DAY  
202d 203a FOURTH DAY 252a b
- 28 HARVEY *Circulation of the Blood* 319c / *On  
Animal Generation* ■ 335c 336c 393b 425a
- 30 B ON *Ad Cumeit f Lear* I g 42-c  
43a d 45a-46 46c-47 / *Human Organism*  
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APH 2 137b e / *New Animals* 210d
- 31 DESCARTES *Rules* IX 15b d / *Discourse  
on Method* P RT I 61b 62c 66a b / *Meditations* IV  
90a b / *Objections and Replies* L X I O I I  
131d 215a b
- 31 SPINOZA *Ethics* PART I APPENDIX 369b 372d
- 34 N WTON *Principles* 1a 2a DEF VIII 7b 8a  
BK III RULE I ■ 270a GENERAL SCHOL 371b-  
372a / *Optics* K III 542a 543a b
- 34 HUYGENS *Light* CH I 553b 554a
- 35 LOCKE *Human Understanding* BK IV CH III  
SECT 28 29 322a 323a
- 35 B RKELEY *Human Knowledge* ■ CT 32  
418d-419a SECT 50-53 422 423a passim  
SECT 60-66 424b-426a passim S CT 101 109  
432c-434b passim
- 35 HUME *Human Understanding* SECT I DIV 9  
454c 455a SECT IV DIV 26 460b ■ SECT VII  
DIV 57 475d-476b [in 2] DIV 60 477a SECT  
V II DIV 67 480c-481a
- 42 KANT *Practical Reason* 46d-47c / *Practical Reason*  
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c 581 582c
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9d 10b
- 45 FOURIER *Theory of Heat* 169a 183a b
- 49 DARWIN *Origin of Species* 239c 240d
- 51 TOLSTOY *War and Peace* BK IX 344 ■  
BK XI 470a c BK XIII 563 b EPILOGUE I  
650b c EPILOGUE 694d 696d
- J MES *Psychology* 69b 70a 89b 90a 742 b  
745b 882a 884b passim esp 882b 883a 884b  
885a 886a
- 54 FREUD *General Introduction* 454b- 484a
- 3 The role of mathematics in the natural  
science observation and measurement  
relation to mathematical formulation
- 8 ARISTOTLE *Posterior Analytics* BK I CH ■  
[76 3-25] 104b d CH I 3 [78<sup>31</sup>-79 6] 108b  
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- 10 ARISTOTLE *Generation of Animals* CH 9 247a 248a
- 11 ARCHIMED *Equilibrium of Planes* 502  
519b / *Floating Bodies* 538a 560b / *Method*  
569 592a
- 14 PUTARCH *Moral Essays* 252a 255
- 16 K L R *Epitome* BK V 954b 955a
- 18 AUGUSTIN *Confessions* K V pa 3-6 27  
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- 19 AQUINAS *Summa Theologica* PART I Q 3  
A 2 175d 178a PART I-I Q 35 A 8  
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- 20 AQUINA *Summa Theologica* P RT I Q 9  
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- 23 HOBBS *Leviathan* PART I 72a d 73b ■ T  
IV 268c d
- 28 G LIL O *Two New Sciences* R T DAY  
131b 132 133b FOURTH DAY 245b-d  
252 b



(3) *The role of mathematics in the natural sciences: observation and measurement in relation to mathematical formulations*

- 30 BACON *Advancement of Learning* 46b c / *Novum Organum* BK I APH 109 129b BK II APH 8 140b APH 39 170b e
- 31 DESCARTES *Rules* IV 7a-c XIV 31c d / *Discourse* PART I 43b c PART III 50d / *Objections and Replies* 169c 170a
- 34 NEWTON *Principles* 1a 2a DEF VIII 7b 8a BK I PROP 69 SCHOL 131 BK III 269a
- 34 HUYGENS *Light* PREF 551b 552a
- 35 HU *Human Understanding* SECT IV DIV 27 460c d
- 36 SWIFT *Gull or* PART III 94b 103a
- 41 GIBSON *Decline and Fall* 299b c
- 42 KANT *Judgement* 551a 552a
- 45 LAVOISIER *Elements of Chemistry* PART I 14a c 33b 36a 41a 44d PART III 96b 103b
- 45 FOURIER *Theory of Heat* 169a b 172a 173b 175b 177a 182b 184a 249a b
- 45 FARADAY *Researches in Electricity* 831b-c
- 50 MARX *Capital* I 170a e
- 51 TOLSTOY *War and Peace* BK XI 469a d
- 53 JAMES *Psychology* 126a b 348a 359a esp 351a 354a 675b 876a b 882a 884b

4 The experimental method in the study of nature

4a The distinction between simple observation and experimentation: the art of creating ideal or isolated physical systems

- 28 GALILEO *Two New Sciences* FIRST DAY 148d 149c 166d 167b
- 28 HARVEY *Circulation of the Blood* 320b
- 50 MARX *Capital* I 6c
- 53 JAMES *Psychology* 126a 127b
- 54 FREUD *New Introductory Lectures* 815 c

4b Experimental discovery and creative generalization from experiments: the role of theory or hypothesis in experimentation

- 10 HIPPOCRATES *Ancient Medicine* part 1-81a 3b
- 28 GILBERT *De Magnete* PREF 1a b BK I 6a 7a BK II 27c 28a
- 28 GALILEO *Two New Sciences* FIRST DAY 131a 138b 157b-171b passim THIRD DAY 203d 205b 207d 208a
- 28 HARVEY *Motion of the Heart* 273c d 280 d 285c d / *Of Animal Generation* 331b 333d 336b d 383d 451b c
- 30 BACON *Advancement of Learning* 16a 30d 31a 34b 42a-c 56c 59c / *Novum Organum* PREF K I 105 136a c esp BK I APH 64 114b APH 70 116b 117a APH 82 120d 121b APH 99-100 127b e BK II APH II 14 140d 148d APH 36 164a 168d
- 31 DESCARTES *Discourse* PART VI 61d 62c
- 33 PASCAL *Vacuum* 359 365b / *Equilibrium of Liquids* 390a-403 passim

- 34 NEWTON *Principles* BK III RULE III IV 2/6b 271b GENERAL SCHOL 371b-372a / *Optics* BK I 379a 386b-404b 424a-440a 450a-453a BK II 457a 478b BK III 496a 516a BK III 543a b

- 34 HUYGENS *Light* PREF 551b 552a

- 35 LOCKE *Human Understanding* BK III CH VI SECT 46-47 281d 282b BK IV CH XII SECT 9-13 360d 362d passim

- 42 KANT *Intro Metaphysics of Morals* 387a b

- 45 LAVOISIER *Elements of Chemistry* PREF 2a b PART I 10d 12d 17a 20d esp 17a 22d 24a 29d 33b

- 45 FOURIER *Theory of Heat* 172a 175b 184a

- 45 FARADAY *Researches in Electricity* 265a 273a esp 272c 273a 277a 300a 319b d 330d 347a 351c 362d 366c 371d 377d 400b d 607a e 659a 774d 775a 851a-c

- 49 DARWIN *Origin of Species* 135b 139a passim

- 53 JAMES *Psychology* 126a 127a 265a 268a 341a 344b 348a 357b passim 385a b

4c Experimental testing and verification: the crucial experiment

- 10 GALEN *Natural Faculties* BK I CH 13 173d 177a BK III CH 2 199d 200a CH 4 201b-202c CH 8 205a 207b

- 21 DANTE *Divine Comedy* PARADISE II [46-105] 108b d

- 28 GALILEO *Two New Sciences* FIRST DAY 148c 149c 166d 168a THIRD DAY 200a b 202d 203a 203d 205b 207d 208c

- 28 HARVEY *Motion of the Heart* 268d 273c esp 268d 273c 286b 304a c esp 285b c 295d 296a / *Circulation of the Blood* 311c 312c 324c d

- 30 BACON *Novum Organum* BK II APH 36 164a 168d

- 31 DESCARTES *Discourse* PART VI 61c 62c 66a b

- 33 PASCAL *Vacuum* 368b 370a / *Great Experiment* 382a 389b / *Weights of Air* 404a-405b 425a 429a

- 34 NEWTON *Principles* LAWS OF MOTION SCHOL 19b 22a BK II GENERAL SCHOL 211b 219a PROP 40 SCHOL 239a 246b / *Optics* BK I 392a 396b 408a 410b 412a-416b 453a 455a BK II 543a b

- 34 HUYGENS *Light* PREF 551b 552a

- 35 LOCKE *Human Understanding* BK IV CH XII SECT 13 362c d

- 45 LAVOISIER *Elements of Chemistry* PREF 2a b PART I 17a b 32a 33a

- 45 FOURIER *Theory of Heat* 181b 184a

- 45 FARADAY *Researches in Electricity* 300b 316a 334b 335c 377d 383a 385b c 388c 389d 440b d 467a b 830b 832c

- 49 DARWIN *Origin of Species* 12b c 149d 150a

- 53 JAMES *Psychology* 865a 882 884b

- 54 FREUD *Interpretation of Dreams* 291d 292a / *Narcissism* 401a / *New Introductory Lectures* 815a b 818c 819b

#### 4d Experimental measurement the application of mathematical formulae

- 28 GILBERT *Loadstone* BK IV 85c 89c BK V 92 93b
- 28 G LILLO *Two New Sciences* FIRST DAY 136d 137c esp 137b c 148d 149c 164a 166c esp 165 166c THIRD DAY 207d 208c
- 28 HARVEY *Motion of the Heart* 286c 288c
- 34 NEWTON *Principles* LAWS OF MOTION SCHOL. 20a 22a BK II G N RAL SCHOL 211b 219a PROP 4 CHOL 239a 246b
- 45 LAVOISIER *Elements of Chemistry* PART I 14a-c 17a 20b 22d 24a 30a 32d 33b 36a PART III 87d 90a 91a 95a 96b 103b
- 45 FURIER *Theory of Heat* 175b 184b 185b
- 45 FARADAY *Researches in Electricity* 277d 279a 316b 318 366d 371d 444a 451a 465d 467a 768d 773d 778b d 793c
- 53 JAMIESON *Physics* 56a 56a c p 61b 64a 126a 265a 268b 341a 344b 348a 359a

#### 5 The utility of physics the invention of machines the techniques of engineering the mastery of nature

- 14 PUTARCH *Maecellus* 252a 255a
- 28 GILBERT *Loadstone* BK III 75a b BK IV 85 89c BK V 100 101d

- 28 GALILEO *Two New Sciences* FIRST DAY 160d 161a SECOND DAY 191b 193b
- 30 BACON *Advancement of Learning* 34b / *Novum Organum* BK I APH 8i 120b c APH 124 133c d APH 129 134d 135d BK II APH 39 170b c APH 44-51 175d 194c / *New Atlantis* 210d 214d
- 31 DESCARTES *Discourse* PART VI 60d 67a c esp 61b c
- 33 PASCAL *Equilibrium of Liquids* 392b 393a
- 34 NEWTON *Optics* BK I 412a 423b
- 35 LOCKE *Human Understanding* BK IV CH XII SECT III 361c 362c
- 36 SWIFT *Gulliver* PART III 99b 112a
- 39 SMITH *Wealth of Nations* BK I 5d 6a
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- 41 GIBSON *Decline and Fall* 291d 292c 509d 510a c
- 45 LAVOISIER *Elements of Chemistry* PART I 26c 27a 41a-44d 45c d
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- 45 FARADAY *Researches in Electricity* 390b 433a 440a c
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- The relation of mathematics to experimental physics and for the nature of mathematical physics see ASTRONOMY 2c MATHEMATICS 5b MECHANICS 3 SCIENCE 5c
- Other discussions relevant to the treatment of causes in philosophical and scientific physics see ASTRONOMY 3a-3b CAUSE 5b SCIENCE 4c and for other treatments of problems or concepts fundamental to physics see CHANGE 1a-1b CHANGE 2-2b 5a-5b 6a-6b 7a 7d ELEMENT 3-3d 5 INFINITY 3d-3e 4a-4b MATTER 1-1b 2a-2b MECHANICS 1a-1c 6a-6c NATURE 3a-3c(3) QUANTITY 5a-5c SPACE 1-2c 3b TIME 1
- The logic of the experimental method in the study of nature see INDUCTION 5 LOGIC 4b MECHANICS 2a REASONING 6c and for the theory of experimentation and the use of hypotheses and measurements see ASTRONOMY 2a-2b EXPERIENCE 5a-5c HYPOTHESIS 4-4d MATHEMATICS 5a MECHANICS 2b 3a QUANTITY 6-6c SCIENCE 5a-5b 5d-5e
- Other considerations of the utility of physics or natural science generally see KNOWLEDGE 8a SCIENCE 1b(1)
- The various branches of physics such as astronomy statics dynamics optics acoustics hydrodynamics magnetism and electricity see ASTRONOMY 8a-9f MECHANICS 1b 5a-5f(2) 6-6e 7a 7b-7c 7d 7e
- Discussions relevant to the distinction between physics and biology or psychology see ANIMAL 4a CHANGE 6c-6d 9a-9b 10a-10b LIFE AND DEATH 2 MECHANIC 4b-4c MIND 2c and for the treatment of one aspect of psychophysics see SENSE 3 (2)

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topic with which this chapter deals. These works are divided into two groups

I Works by authors represented in this collection

II Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*

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 — *The Philosophy of Physical Science*  
 RIEGER *Physics and Reality*  
 P FRAZER *Between Physics and Philosophy*  
 ■ RUSSELL *Our Knowledge of the External World* III-IV  
 — *The Analysis of Matter* CH I 26-37  
 — *Human Knowledge Its Scope and Limits* PART I C I 3 PART II C I 4  
 PLANCK *A History of Physics*  
 — *The Philosophy of Physics* C I 1  
 — *Scientific Autobiography*  
 SCHICK *Philosophy of Nature*

## Chapter 68 PLEASURE AND PAIN

### INTRODUCTION

PLEASURE and pain writes Locke like other simple ideas cannot be described nor their names defined the way of knowing them is only by experience That pleasure and pain are elementary experiences attributed to animals as well as enjoyed or suffered by men is attested by poets and physiologists alike by economists and theologians by historians and moralists Yet in the tradition of western thought few of the great writers are content to leave the nature or meaning of pleasure and pain to the intuitions of experience alone

Conflicting definitions are proposed Psychologists disagree about the conditions under which the feelings of pleasure and pain occur their causes and consequences their relation to sensation to desire and emotion to thought volition and action Moralists dispute whether pleasure is the only good and pain the only evil whether pleasure is only one good among others to be assessed according to its worth in the scale of goods whether pleasure and pain are morally indifferent whether some pleasures are good others bad or all are intrinsically evil

Not only in the theory of good and evil but also in the theories of beauty and truth pleasure and pain are fundamental terms They are affected by all the difficulties which belong to these great themes and also with the difficulties attendant on the ideas of virtue sin and punishment of duty and happiness into the consideration of which pleasure and pain traditionally enter

The traditional use of the words pleasure and pain is complicated by more than the variety of definitions which have been given. Other words are frequently substituted for them sometimes as synonyms and sometimes to express only one part or aspect of their meaning Locke for example uses pleasure

or delight pain or uneasiness and he observes that whether we call it satisfaction delight pleasure happiness etc on the one side or uneasiness trouble pain torment anguish misery etc on the other they are still but different degrees of the same thing Other writers use joy and sorrow or grief as synonyms for pleasure and pain

The words pleasure and pain are closely associated in meaning with pleasant and unpleasant though Freud sometimes uses unpleasant (*unlust*) to signify an opposite of pleasure which is not the same as ordinary pain (*schmerz*) The pleasant is often called agreeable enjoyable or satisfying In the language of Shakespeare the words like and dislike have currency as the equivalents of please and displease A person who is displeased by something says of it that it likes me not

THE PROBLEM OF what pleasure and pain are seems logically to precede the ethical consideration of their relation to good and evil happiness and misery virtue and duty But in the tradition of the great books the psychological questions about pleasure and pain are usually raised in moral or political treatises and sometimes in connection with discussions of rhetoric What pleasure is how it is caused and the effects it produces are seldom considered apart from whether pleasures should be sought or avoided whether some pleasures should be preferred to others and whether pleasure is the sole criterion of the good Sometime as with Marcus Aurelius and Epictetus the ethical point—that pleasure and pain are in one sense morally indifferent—is made without any psychological account of the nature and origin of these experiences. More frequently as in Plato's *Philebus* and Aristotle's *Ethics* or in

writings of Hobbes Spinoza Locke and Mill the psychological discussion is imbedded in an ethical or political context

Even Lucretius and William James do not seem to be complete exceptions. James theory that the feeling of pleasure accompanies activity which is unimpeded whereas pain attends arrested activity seems to be a purely psychological observation and one which can be readily divorced from moral considerations on the ground that it makes no difference to the occurrence of pleasure and pain whether the activity in question is ethically good or bad. Yet James makes this observation the basis for arguing against those whom he calls the pleasure philosophers—those who make pleasure the only motive or goal of conduct. They confuse, he thinks, the pursuit of pleasure itself with the pleasure which accompanies the successful achievement of other things which may be the goals of activity.

A *pleasant act*, he writes, and an act *pursuing a pleasure* are in themselves two perfectly distinct conceptions though they coalesce in one concrete phenomenon whenever a pleasure is deliberately pursued. Because a pleasure of achievement *can* become a pursued pleasure upon occasion, it does not follow that every where and always that pleasure must be pursued. One might as well suppose that because no steamer can go to sea without incidentally consuming coal and because some steamers may occasionally go to sea to try their coal that therefore no steamer *can* go to sea for any other motive than that of coal consumption.

Psychological observations of this sort have an obvious relevance to Aristotle's theory of good and bad pleasures as well as to Locke's and Mill's position that pleasure is the only good or the only object of desire. They reveal an ethical strain even in the psychologist's view of pleasure and pain. The same point can be made with regard to James' observation that pleasures are generally associated with beneficial pains with detrimental experiences.

Lucretius appears to give a purely physiological account of pleasure and pain in terms of the effect upon the sense organs of various atomic configurations. Those things which can touch the senses pleasantly are made of smooth and round bodies but those which

seem to be bitter and harsh are made up of particles more hooked and for this reason are wont to tear a way into our senses. Hot fires and cold frost have particles fanged in different ways to prick the senses. But Lucretius is concerned to point out not only the basis of pain in the atomic nature of things but also the natural tendency of all sensible things to avoid pain as the one besetting evil. Nature cares aloud for nothing else but that pain may be kept far sundered from the body and that withdrawn from care and fear she may enjoy in mind the sense of pleasure.

Without giving any psychological explanation of the pleasures of the mind Lucretius sets them above the pleasures of the body because the latter—as his diatribe against love makes clear—seem to be inevitably followed by bodily torments or even to be admired with them. The first maxim of nature then is not to seek pleasure but to avoid pain and among pleasures to seek only the unmixed or pure (pleasures of knowledge and truth). The distinction between different qualities of pleasure (pleasures of the body and of the mind mixed and pure pleasures) which is made by Plato and Mill as well as by Lucretius inevitably tends to have at once both moral and psychological significance.

If in the great books there is any purely psychological theory of pleasure and pain divorced from moral considerations it is probably to be found in Freud. The pleasure principle according to him automatically regulates the operation of the mental apparatus. Our entire psychical activity, he writes, is bent upon *procuring pleasure and avoiding pain*. Though pleasure and pain are for him primary elements of mental life, Freud admits the difficulty they present for psychological analysis.

We should like to know, he writes, what are the conditions giving rise to pleasure and pain but that is just where we fall short. We may only venture to say that pleasure is in some way connected with lessening lower in extinguishing the amount of stimulation in the mental apparatus and that pain involves a heightening of the latter. Consideration of the most intense pleasure of which man is capable the pleasure in the performance of the sexual act leaves little doubt upon this point.

Yet for Freud the pleasure principle is not the only regulator of mental life. In addition to the sexual instincts which aim at gratification and pleasure there are the ego instincts which under the influence of necessity their mistress soon learn to replace the pleasure principle by a modification of it. The task of avoiding pain becomes for them almost equal in importance to that of gaining pleasure: the ego learns that it must inevitably go without immediate satisfaction; postpone gratification; learn to endure a degree of pain; and altogether renounce certain sources of pleasure. Thus trained the ego becomes reasonable: is no longer controlled by the pleasure principle but follows the reality principle which at bottom also seeks pleasure—although a delayed and diminished pleasure—one which is assured by its realization of fact its relation to reality.

This recognition of a conflict between pleasure and reality with a consequent attenuation or redirection of the pleasure principle is not amplified by Freud into a moral doctrine. It does however bear a striking resemblance to the theories of moralists like Kant who oppose duty to pleasure and also to the teachings of those who like Aristotle and Aquinas conceive virtue as the foregoing of certain pleasures and the endurance of certain pains through a reasonable and habitual moderation of these passions.

If PLEASURE AND PAIN were simply sensations like sensations of color or sound they would pose a problem for the physiological psychologist no different from the problems which arise in the fields of vision and audition. Modern physiological research claims to have discovered differentiated nerve endings for pain which together with the specific sense-organs for pressure heat and cold make up the cutaneous senses. But whether there are special cells for the reception of pain stimuli or whether cutaneous pain results from the too intense stimulation of the pressure and thermal nerve endings there seems to be no evidence of organs sensitized to pleasure as for example the nerve cells of the retina are sensitized to light. The feeling of pleasure it would seem to follow is not a sensation. This seems to be confirmed by the traditional observation that every type of sen-

sation including the sensation of pain can be pleasant.

Even if pain unlike pleasure is found to be a specific mode of sensation with a special sense organ of its own all other types of sensation—visual auditory olfactory etc—might still have painfulness or a feeling of unpleasantness as an attribute. That such is the case seems to be a matter of traditional observation. Locke for example says that delight or uneasiness one or the other of them join themselves to almost all our ideas of sensation and reflection there is scarce any affection of our senses from without which is not able to produce in us pleasure or pain. So understood pleasure and pain—or the pleasant and the unpleasant—are not opposite sensations as are hot and cold but contrary attributes with which every sort of sensation can be affected. All need not be. Some sensations may be neutral with respect to what psychologists call affective tone or affective quality.

The kind of pleasure and pain which is called bodily or sensuous would thus be sensuous because it is an attribute of sensations and bodily because sensations involve bodily organs. But in almost every great discussion of pleasure and pain other types are recognized: intellectual delights the pleasures and pains of learning aesthetic pleasure in contemplating beauty with the mind as well as with the senses and the pain of loss the grief accompanying deprivation which is so different from the torment of a painful affliction of the senses. The human suffering with which the great poems deal is much more often a torment of the spirit than of the flesh.

To cover these other types of pleasure and pain we must go beyond sensation to two other terms traditionally connected with the psychological analysis of pleasure and pain. One is emotion the other desire the latter to be understood broadly as including both the sensitive and the rational appetites—both the passions and the will. Aquinas for example treats joy and sorrow as specific emotions which represent the appetite in a state of satisfaction or frustration. So too the will as an appetite can come to rest in the attainment of its object and with fruit can be in a state of joy.

As conditions of the appetite,

pain (or joy and sorrow) can be either passions and like all other emotions bodily states or they can be acts of the will and according to Aquinas at least spiritual states. But either way pleasure and pain seem to represent the satisfaction or frustration of desire rather than objects desired or averted. To be pleased by the attainment of an object desired such as food and drink or knowledge is not the same as to desire pleasure itself ■ for example the pleasant sensations which may be involved in eating or drinking.

Aquinas talks about the desire for pleasure and the aversion to pain as well as the pleasure and pain of satisfied and unsatisfied desires. Since the same words are almost always used to express both meanings the two senses of pleasure and displeasure may go unnoticed unless by context or by explicit mention the author refers to pleasure as an object of desire or identifies it with the satisfaction of any desire whether for pleasure or for some other object. As a passage already quoted from James indicates and as we shall presently see more fully the distinction between these two senses of pleasure has a critical bearing on the dispute between those who think that pleasure is the only good and those who think that pleasure is one good among others.

The generally recognized difference between two kinds of pain—the pain of sense and the pain of loss or deprivation—parallels the distinction which most writers acknowledge between sensuous pleasure and the pleasure of possession or satisfaction. Plato's example of the pleasure involved in the relief of itching by scratching seems to catch both meanings and in addition to show that bodily pleasures may be either sensual *objects* or sensual *satisfactions*. In contrast the pleasures of the mind are satisfactions of intellectual desire ■ in the contemplation of beauty or the knowledge of truth.

Aristotle deals with pleasure and pain as *objects* when he defines temperance as a moderate pursuit of bodily pleasures and courage as controlling the fear of pain and its avoidance. But he also conceives pleasure as that which completes any activity whether of the senses and the body or of thought and the mind.

Without activity he writes "pleasure does not arise and every activity is completed by

the attendant pleasure." This meaning of pleasure seems to be analogous to if not identical with pleasure as satisfaction at least insofar as the satisfaction of a desire is that which completes the activity springing therefrom. There can be as many different kinds of pleasure as there are kinds of activity the quality of the pleasure ■ determined by the character of the activity it accompanies.

Though Mill refers to pleasure and freedom from pain as the only things desirable as ends he admits many other objects of desire in the attainment of which men find pleasure or satisfaction. It is wrong to suppose that human beings he writes are capable of no pleasures except those of which swine are capable. Precisely because human beings have faculties more elevated than the animal appetites they have sources of pleasure or gratification not open to swine. Here as before two meanings of pleasure seem to be involved. In pointing out that money in many cases is desired in and for itself Mill is naming an object of desire which like health knowledge power or fame is not pleasure yet which through being desired is a source of pleasure (i.e. satisfaction) when achieved. Like other objects of desire sensual or bodily pleasures may also be sources of satisfaction.

THESE TWO MEANINGS of pleasure are most ■ need of clear distinction when the relation of pleasure to happiness is being discussed. If happiness as Aristotle and Mill seem to say consists in having all desires satisfied then the content of the happy life can be described either in terms of the goods which the happy man possesses—the objects of desires fulfilled—or in terms of the pleasures which accompany the goods possessed that is the pleasures which are satisfactions of desire. If pleasure in the other meaning especially sensual or bodily pleasure is only one object of normal desire then lack or deficiency of pleasure may like loss of health or fortune impair a man's happiness. But the pursuit of pleasure in this sense cannot be identified with the pursuit of happiness. A life including every sort of bodily pleasure and free from every sort of bodily pain if it lacked other things men normally desire would be marred by many dissatisfactions inconsistent with happiness.

Talking to Don Quixote of the island he would like to govern Sancho Panza says 'The first thing I would do in my government I would have nobody to control me I would be absolute Now he that's absolute can do what he likes he that can do what he likes can take his pleasure he that can take his pleasure can be content and he that can be content has no more to desire Here it would seem Sancho conceives happiness as the sum of pleasures in the sense of satisfactions—all desires come to rest through the possession of their objects

Dr Johnson seems to make the opposite point about pleasure and happiness Boswell asks him whether abstinence from wine would be a great deduction from life It is a diminution of pleasure to be sure Johnson replies but I do not say a diminution of happiness But Boswell asks if we could have pleasure always should we not be happy? Johnson explains his negative answer by saying that when we talk of pleasure we mean sensual pleasure When a man says he had pleasure with a woman he does not mean conversation but something of a different nature Philosophers tell you that pleasure is contrary to happiness

This last observation does not seem to describe the position taken by those philosophers who make happiness the greatest good or ultimate end of human striving Both Aristotle and Mill distinguish the life of pleasure the bestial or swinish life from one which employs the higher faculties peculiar to man In this sense perhaps the life of pleasure can be regarded as contrary or opposed to what Johnson along with Aristotle and Mill calls the rational life But pleasure itself far from being inimical to happiness either represents the state of satisfaction which is identical with happiness or one of the things a man desires and hence a constituent of the happy life

Hobbes and Locke seem to go further in the direction of identifying pleasure with happiness or the good Pleasure writes Hobbes is the appearance or sense of Good and Displeasure the appearance or sense of Evil Similarly Locke says that things are good or evil only in reference to pleasure or pain That we call good which is apt to cause or increase pleasure or to diminish pain in us And on the contrary we name that evil which is apt to pro-

duce or increase any pain or diminish any pleasure in us As for happiness it is according to Locke the utmost pleasure we are capable of and misery the utmost pain and the lowest degree of what can be called happiness is so much ease from all pain and so much present pleasure as without which anyone cannot be content

In which sense of the term is Locke identifying pleasure with happiness? Not sensual pleasure nor even pleasure as an object of desire it would seem for he says Let one man place his satisfaction in sensual pleasure another in the delight of knowledge though each of them cannot but confess there is great pleasure in what the other pursues yet neither of them making the other's delight a part of his happiness their desires are not moved but each is satisfied without what the other enjoys Yet his understanding of happiness as consisting in the pleasures or satisfactions accompanying the possession of things desired leads him to criticize the philosophers of old who did in vain inquire whether the *summum bonum* consisted in riches or bodily delights or virtue or contemplation they might have as reasonably disputed whether the best relish were to be found in apples plums or nuts and have divided themselves into sects upon it For as pleasant tastes depend not on the things themselves but on their agreeableness to this or that particular palate wherein there is great variety so the greatest happiness consists in the having those things which produce the greatest pleasure These to different men are very different things

The difference between Locke's position and that of Mill seems therefore not to lie in a different conception of the relation of pleasure—as object or as satisfaction of desire—to happiness but rather in Locke's conception of degrees of happiness as being determined only by larger and smaller quantities of pleasure whereas Mill insists upon diverse qualities of pleasure and upon the possibility of ordering pleasures as higher and lower In consequence Mill can say what Locke would seem unable to approve namely that it is better to be a human being dissatisfied than a pig satisfied better to be Socrates dissatisfied than a fool satisfied

Locke's denial that happiness is the same



for all men explicitly takes issue with Aristotle's contrary view. It also involves an issue about pleasure. For Locke—as apparently for Hobbes and Mill—the good and the pleasant are inseparable. Nothing which satisfies a desire can be evil. Whether as in Locke's view one satisfaction is as good as another and the only thing which matters is the amount or number of satisfactions, or whether as in Mill's view one pleasure may be better than another in no case is a pleasure bad so long as some one desires it, or desires the thing which produces satisfaction when possessed.

But for Aristotle desires themselves can be good or bad and consequently there can be good and bad pleasures as well as pleasures which vary in quality and in degree of goodness.

Since activities differ in respect of goodness and badness and some are worthy to be chosen, others to be avoided, and others neutral, so too Aristotle writes, are the pleasures for to each activity there is a proper pleasure. The pleasure proper to a worthy activity is good and that proper to an unworthy activity bad, just as the appetites for noble objects are laudable, those for base objects culpable.

Pleasure and pain in Aristotle's judgment are measured by virtue, not what is good and evil by pleasure and pain. Pleasure and pain are elements common to the good life and the bad, but only the pleasures which the good man enjoys and the pains he willingly suffers can be called good. That is why, in educating the young we steer them by the rudders of pleasure and pain, for to enjoy the things we ought and to hate the things we ought has the greatest bearing on virtue or character. Virtue is possessed only by those who habitually take pleasure in the right things.

As indicated in the chapters on Happiness and Duty, the moralists who make duty rather than virtue the spring of right conduct and who make the goodness of anything depend upon its rightness according to the moral law see little difference among the various theories of pleasure and happiness as the ultimate good and the standard of conduct.

The most eloquent tribute which Kant can pay to the idea of duty is that it embraces nothing charming or insinuating. Reason he

says will never let itself be brought around to the view that there is any intrinsic worth in the real existence of a man who merely lives for enjoyment—even when in so doing he serves others. Admitting that the greatest regate of the pleasures of life, taking duration as well as number into account, would appear to merit the name of a true, nay even of the highest good, Kant adds that reason sets its face against this too. The line of duty is always set against the seductions of pleasure or any calculations of utility, whether in terms of the means to achieving happiness or the ways of augmenting life's satisfactions.

According to Stoics like Marcus Aurelius, pleasure is neither good nor useful, nor is pain an evil, for when we are pained by any external thing we should remember that it is not this thing which disturbs us, but our own judgment about it. Pleasure and pain are morally indifferent, for like death and life, honor and dishonor, pain and pleasure are things which happen equally to good men and bad, and therefore make us neither better nor worse, and are neither good nor evil.

From the same observation that pleasure is enjoyed by good and bad men, Aristotle and Plato seem to draw the conclusion, not that it is morally indifferent, but that we have seen that there are good and bad pleasures. Plato uses pleasure and wisdom to typify fundamentally different kinds of good. Wisdom is always true and good, but like opinion, which can be either true or false, there are true and false pleasures, good and evil pleasures. Furthermore, wisdom or knowledge represents the kind of good which is definite or intrinsically measured, whereas pleasure like wealth is an indefinite good, requiring something external to itself, something like wisdom, to measure it and sum up its quantity.

If wisdom be allowed to choose among pleasures, Socrates suggests in the *Philebus*, it will choose those associated with itself in the activities of the mind, not the bodily pleasures which are always mixed with pain. So far, pleasure belongs to the realm of change or becoming; it is again like opinion, inferior to knowledge and wisdom, which draw their goodliness from the realm of immutable being. Yet Plato does not seem to think that knowledge

and wisdom are the only goods. The argument against those who think so seems to be as conclusive as against those who think that pleasure is the only good.

Each of the simple lives—the life of pleasure or the life of wisdom—is deficient. Only the mixed life, the life which combines both pleasure and wisdom, is the complete life. Like the happy life in Aristotle's view, it includes every kind of good and the difficult problem for Plato as for Aristotle seems to be finding the principle which determines the goodness of the mixture or the right order and proportion in which the variety of goods should be combined.

THE MORAL ISSUES which have been raised here with respect to pleasure and pain are more broadly considered in the chapters on GOOD AND EVIL and on VIRTUE, TEMPERANCE and SIN, as well as in the chapters on HAPPINESS and DUTY. Other issues are reserved entirely for discussion elsewhere, such as the role of pleasure in the perception of beauty and in judgments of taste (the chapter on BEAUTY) or the role of pain in relation to the government of men (the chapter on PUNISHMENT).

Two special problems which involve pleasure and pain remain to be briefly mentioned. The first concerns the contrast between asceticism and self-indulgence or even profligacy.

In the tradition of western thought and culture and in the ancient as well as in the modern world, those who worship pleasure, though perhaps only as a minor deity to be celebrated in bacchic revels, stand opposed to those who turn away from pleasure as from the world, the flesh and the devil, even mortifying the flesh and sanctifying themselves with pain. In their less extreme forms these contrasting attitudes generate the traditional issue concerning the place of worldly recreations in man's life and in the state. Is the pleasure of play a necessary and proper relief from the pain of work, or is it always an indulgence which provides occasions for sin? Are the enjoyment of the theatre of music and poetry, the gaiety of public festivals and the diversions of games or sports things to be promoted or prohibited by the state?

Man's avidity for amusements and diversions of all sorts leads Pascal to say, "How hollow and

full of baldry is the heart of man! The fact that men spend their time in following a ball or a hare and that it is the pleasure even of kings indicates to him how deep is the misery from which men try to escape through play and pleasure. If man were happy, Pascal suggests, he would be the more so the less he was diverted. But so wretched is man that he would weary even without any cause of weariness from the peculiar state of his disposition and so frivolous is he that though full of a thousand reasons for weariness, the least thing such as playing billiards or hitting a ball is sufficient to amuse him. Men need such diversions in order to prevent them from thinking of themselves.

Men indulge in pastimes for another reason according to Aristotle. They need relaxation because they cannot work continuously, and amusement is a sort of relaxation. But happiness does not lie in amusement. It would indeed be strange, he says, if the end were amusement and one were to take trouble and suffer hardship all one's life in order to amuse one's self. It is true that pleasant amusements resemble happiness in having the nature of an end, because we engage in playful activity not for the sake of other things, whereas we do serious work for some end beyond itself. But in Aristotle's opinion, a virtuous life requires exertion, and since the happy life is thought to be virtuous, it follows that serious things are better than laughable things and those connected with amusement.

These reflections on work and play and the pains and pleasures they involve lead us to the second of the two problems mentioned above. That concerns pleasure and pain in the life of learning. Here there seems to be no fundamental issue, for the tradition speaks with an almost unanimous voice of the pleasure all men find in knowing and the pain none can avoid in the process of seeking the truth. The problem is rather a practical and personal one, which the great books put to their readers to solve in the individual lives. Their invitation to learning should not be accepted nor their promise of pleasure relied upon by those unwilling to take the pains which have to be paid initially, gradually diminish as the mind in the very process of learning learns how to learn.

## OUTLINE OF TOPICS

- 1 The nature of pleasure and pain
- 2 The causes of pleasure and pain
- 3 The effects or concomitants of pleasure and pain
- 4 The kinds of pleasure and pain different qualities of pleasure
  - 4a The pleasant and unpleasant in the sphere of emotion joy and sorrow delight and grief
  - 4b Sensuous pleasure the affective quality of sensations
  - 4c Intellectual pleasure the pleasures of reflection and contemplation
    - (1) Pleasure in the beauty of nature or art disinterested pleasure
    - (2) The pleasure and pain of learning and knowledge
  - 4d The pleasures of play and diversion
  - 4e The kinds of pain the pain of sense and the pain of loss or deprivation
- 5 The quantity of pleasure the weighing of pleasures the limits of pleasure
- 6 Pleasure and the good
  - 6a Pleasure as the only good or as the measure of goodness in all other things
  - 6b Pleasure as one good among many pleasure as one object of desire
  - 6c Good and bad pleasures higher and lower pleasures
  - 6d Pleasure as the accompaniment of goods possessed the satisfaction of desire
  - 6e Pleasure as intrinsically evil or morally indifferent
- 7 Pleasure and happiness their distinction and relation
  - 7a Pleasure and pain in relation to love and friendship
  - 7b The life of pleasure contrasted with other modes of life the ascetic life
- 8 The discipline of pleasure
  - 8a Pleasure and pain in relation to virtue the restraints of temperance and the endurance of courage
  - 8b The conflict between pleasure and duty or the obligations of justice the pleasure principle and the reality principle
  - 8c Perversions or degradations in the sphere of pleasure and pain sadism and masochism
- 9 The regulation of pleasures by law
- 10 The social utility of pleasure and pain
  - 10a The employment of pleasure and pain by parent or teacher in moral and mental training
  - 10b The use of pleasure and pain by orator or statesman in persuasion and government

- ## 2 The causes of pleasure and pain

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12 AURELIUS *Meditations* K VII SECT 16 280d  
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18 AUGUSTINE *Confessions* BK III par 2 4 13c  
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19 AQUINAS *Summa Theologica* PART I Q 18  
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9 ARISTOTLE *Ethics* BK II CH 9 [1109<sup>b</sup> 13]  
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12 LUCRETIVUS *Nature of Things* BK III [31 40]  
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19 AQUINAS *Summa Theologica* PART I Q 3  
A 4 REP 1 625a 626b Q 32 A 4 REP 2 761c  
762a Q 33 765b 768c Q 34 A 3 REP 3 774a c  
Q 37 38 783c 789d  
20 AQUINAS *Summa Theologica* PART III SUPPL  
Q 86 A 3 REP 3-4 994d 996a c  
21 DANTE *Divine Comedy* PURGATORY X III  
[16-39] 80a b  
23 HOBBS *Leviathan* PART I 77a PART II  
163d 164a  
24 RABELAIS *Gargantua and Pantagruel* BK I  
8c d  
31 SPINOZA *Ethics* PART III PROP 11-57 399d  
415b *passum* THE AFFECTS 416b 422 c  
35 LOCKE *Human Understanding* BK II CH VII  
SECT 3-5 132d 132c CH XXI SECT 34 186a b  
SECT 54 192b c SECT 59 193d 194a  
35 BERKELEY *Human Knowledge* SECT 1 413b  
42 KANT *Practical Reason* 314d 318b / *P r*  
*of Metaphysical Elements of Ethics* 375a b / *In*  
*tro Metaphysic of Mor ls* 385a 386b  
46 HEBEL *Philosophy of History* PART I 220b c  
49 D RUVIN *Descent of Man* 308a 309d  
53 JAMES *Psychology* 94a b 526b 527a 647a  
650b 651b 654a 655a 725b 726a 808b  
814b 829b-830a  
54 FREUD *Interpretation of Dreams* 377c 38 d  
esp 378b d 384c 385c / *Narcissism* 403d  
404b / *Instincts* 419a 421a / *Repression* 422a  
427a c esp 422a d 425b / *General Introduct*  
*tion* 592c 593a / *Being of the Pleasure P niple*  
639a 663d esp 639a 640c 648b-650a 651a d  
652b d 654a 662 663 / *Ego and Id* 701b  
711c 712a / *Inhibitions Symptoms and Anx*  
*xiety* 737b 741c esp 737d 741a b 742b 744  
753c d / *New Introductory Lectures* 843d B 6a  
4 The kinds of pleasure and pain different  
qualities of pleasure  
7 PLATO *Phaedo* 220d 221a / *Go gas* 2 7d  
280d esp 280b d / *Republic* BK VII 409d  
410c K IX 421a-425b / *Philebus* 609a-6 0c  
619d 633a

- 8 ARISTOTLE *Topics* BK I CH 15 [106 36 b] 150b
- 9 ARISTOTLE *Ethics* BK III CH 10 11 364b 365d BK VII CH 5 [1148<sup>b</sup> 5 18] 399a CH 13-14 404d-406 ■ K IV CH 7 [1168 9-18] 421c BK X CH 3 [1173<sup>b</sup> 9] 427d 428a CH 5 429d 430d / *Rhetor* BK I CH II 613a 615c
- 12 LUCRETIUS *Natur of Things* BK III [94-116] 31b
- 19 AQUINAS *Summa Theologica* PART I Q 64 A 3 337a C PART II Q 2 A 6 ANS PD REP 2 3 619d 620d Q 31 AA 3 7 754a 758b Q 35 772b 780c
- 20 AQUINAS *Summa Theologica* PART II Q 72 A 2 ANS 112b 113a PART III SUPPL Q 81 A 4 EP 4 966d 967d
- 21 H BDE *Lex than* PART I 62 ■
- 25 MONTAIGNE *Essays* 432b d 537d 543 c
- 30 BA ON *Advancement of Learning* g 27c d 73 d
- 32 MILTON *L Allegro* 17b 21a / *Il Pensiero* ■ 21a 25a / *Paradise Lost* BK VI [327-343] 203b [386-405] 204b 205a [430 468] 205b 206b / *Sonnet* *Agonistes* [606-63] 352b 353a
- 33 ASCAL *Geometrical Demonstrations* 441b 442a
- 34 LOCKE *Human Understanding* g BK II CH XV 176b 178 CH XVI SECT 55-56 192c 193b
- 35 MONTESQUIEU *Spirit of Laws* BK XIV 103a 104a
- 42 HANT *Judgement* 477b-478a
- 43 MILL *Utilitarianism* ■ 447b 450b
- 50 MARX *Capital* 292d 295a esp 293c 294a
- 51 TOL TOY *War and Peace* BK X 577a 578b BK XIV 605b d BK XV 630b 631c
- 53 JALZ *Psychology* 754b 758 812a 813b
- 4a The pleasant and unpleasant in the sphere of emotion joy and sorrow delight and grief
- 7 PL TO *Phaedrus* 120b c / *Phaedrus* 220b 221a / *Republic* BK V 352d / *Philebus* 628d 630 / *Law* BK I 649d 650a BK X 748a
- 8 ARISTOTLE *Topica* K IV ■ 5 [5<sup>b</sup> 28 34] 175a CH 6 [27<sup>b</sup> 6-32] 177b
- 9 ARISTOTLE *Ethics* BK CH 5 [1 5<sup>b</sup> 19 28] 351b CH 9 354d 355a c BK III ■ 8 [1 16<sup>b</sup> 3-11 7] 363a c ■ 363d 364b ■ 12 [9 23 3] 365d 366 BK II ■ 5 [49 5-21] 399 d CH 6 [1149<sup>b</sup> 0 15 8] 400b- BK IX CH 4 [66 3 29] 419d 420a / *Politics* K V C I ■ [13 2 24-33] 515b / *Rhetoric* K I ■ III [137 25 32] 613 614b [137 17] 614 BK II CH I [1378 20] C I [1388<sup>b</sup> 30] 623b 636a
- 12 LUCRETIUS *Nature of Things* K IV [1073-1 85] 58 b
- 12 AULIUS *Mediations* BK I C I 10 257d 258a
- 12 PLUTARCH *Cratylus* 184
- 17 PLOTINUS *Fourth Ennead* TR V CH 8 172a 173b
- 18 AUGUSTINE *Confessions* BK III par 2 4 13c 14b BK IV par 10 21c d BK VIII par 7-8 54c 55a BK X par 39 81b c
- 19 AQUINAS *Summa Theologica* PART II Q 22 A I ANS 720d 721c QO 31 39 752b 792d Q 48 A I 822d 823b
- 23 HOBBS *Leviathan* PART I 62b ■ 63b d
- 24 R BELAIS *Gargantua and Pantagruel* BK I 1a c
- 29 CERVANTES *Don Quixote* PART II 217d 218a
- 31 SPINOZA *Ethics* PART III PROP II 57 399d 415b passim THE AFFECTIONS 416b 422 ■
- 35 LOCKE *Human Understanding* BK II CH VII SECT 2 131c d SECT 5 132c CH XX 176b 178a passim esp SECT 3 176d CH XX S T 40 187d 188b ECT 4 188c
- 35 BERKELEY *Human Knowledge* C I 413a b
- 42 KANT *Introductory Metaphysics* / *Morals* 385a ■
- 44 BOSWELL *Johnson* 103b c
- 49 DARWIN *Descent of Man* 308a 309c passim esp 308d
- 53 JAMES *Psychology* 197b 324a 391b 392a 702 703a 718b 719a 730a b 739b 740a 754b 758a passim 808b 809
- 54 FREUD *Interpretation of Dreams* 378 d / *Introductory Lectures* 418d 421a esp 419c 420a / *Repression* 422a 425b esp 422a d 424a b / *General Introduction* 608d / *Beyond the Pleasure Principle* 640c d 641d 643c / *Inhibitions and Symptoms and Anxiety* 720 721c 735d 740 esp 737a b 739b 740c 752c 754a c / *New Introductory Lectures* 843d 846a p 845c 846
- 4b Senses pleasure the affective quality of sensations
- 7 PL TO *Republic* BK 295d 296 BK IX 421a 425b / *Timaeus* 463d 464b 474b d / *Philebus* 619d 620b 627c 628d / *Laus* K VI 714 715a
- 8 ARISTOTLE *Metaphysics* BK I CH I [98 22 8] 499a / *Soul* BK II CH 2 [413<sup>b</sup> 17-24] 643d CH 3 [4 28<sup>b</sup> 5] 644 CH 9 [421 6-6] 652 BK III CH 2 [426<sup>b</sup> 27 28] 658c d / *Sense and the Sensible* CH 3 [439<sup>b</sup> 26 440] 677a CH 4 [442 12 29] 679d 680a CH 5 [443<sup>b</sup> 17 445 4] 681 682d
- 9 ARISTOTLE *Histories of Animals* K V CH I [581<sup>b</sup> ] 107b / *Parts of Animals* I BK I ■ 17 [66 6-8] 188a / *Generation of Animals* BK I ■ 17 [7<sup>b</sup> 18] 261c CH 18 [723<sup>b</sup> 33-7 43] 264a CH 19 [7 7<sup>b</sup> 6] 267c ■ CH 20 [7 7<sup>b</sup> 31-28 4] 268a b [7 8 3 34] 268c / *Ethics* K I CH 5 340d 341b BK II CH 10-1 364b 365d BK V CH II [152<sup>b</sup> 7 18] 403d ■ 12 [53<sup>b</sup> 26 36] 404c d CH 4 405b 406 BK X CH 3 [1173<sup>b</sup> 19] 427d 428a ■ 4 [1 74<sup>b</sup> 15 75 3] 429a b CH 5 [76 8 4] 430c CH 6 [1176<sup>b</sup> 177] 431 / *Rhetoric* BK CH II [37 28 3] 613
- 12 LUCRETIUS *Nature of Things* K I [398 477] 20a 21 ■ [94 1 6] 31b- K V [3 4 33] 48 [6 5-7] 52b 53d 1 37 7] 57d 58a

(4) *The kinds of pleasure and pain different qualities of pleasure* 4b *Sensuous pleasure the affect is quality of sensations*

17 PLOTINUS *Fourth Ennead* TR IV CH 19 167b d CH 8 172a 173b

III AUGUSTINE *Confessions* BK VI par 26 42d 43a

19 AQUINAS *Summa Theologica* PART I Q 91 A 3 REP 3 486b 487d Q 98 A 2 ANS and REP 3 517d 519a PART I II Q 2 A 6 ANS and REP 2 619d 620d

20 AQUINAS *Summa Theologica* PART III SUPPL Q 81 A 4 REP 4 966d 967d

22 CAUCER *Wife of Bath's Prologue* [5583-5774] 256a 259a

III HOBBS *Leviathan* PART I 62c

27 SHAKESPEARE *Antony and Cleopatra* ACT II SC 1 [175 245] 320c 321b

30 BACON *Advancement of Learning* 27c d 73c d

31 DESCARTES *Meditation* VI 97b 98a

35 LOCKE *Human Understanding* BK II CH XX SECT I- 176b c SECT 15 177d CH XX SECT 42 44 188c 189b

38 ROUSSEAU *Inequality* 345d 346b

42 KANT *Judgement* 477b 478a

43 MILL *Utilitarianism* 447b 450b passim

44 BOSWELL *Johnson* 409c

47 GOETHE *Faust* PART I [383 4205] 93b 103a PART II [10 160 175] 247b 248a

48 MELVILLE *Moby Dick* 307b 308b

49 DARWIN *Origin of Species* 95d / *Descent of Man* 301d 302a 569a b 577b

53 JAMES *Psychology* 157a 650b 651b 753b 756a 809b 810b [fn 1] 829b

54 FREUD *Origin and Development of Psychoanalysis* 15d 16 / *Sexual Enlightenment of Children* 119d 120b / *Interpretation of Dreams* 367b c / *Narcissism* 403a c / *General Introduction* 574a 576 578c 579b / *Beyond the Pleasure Principle* 648b c 663a / *Ego and Id* 701a c / *Inhibition Symptoms and Anxiety* 737 b / *Civilization and Its Discontents* 773a b / *An Introductory Lecture* 847b 849a esp 847c

4c Intellectual pleasure the pleasures of reflection and contemplation

7 PLATO *Symposium* 149d 150a 167a d / *Phaedo* 220d 221a / *Republic* BK I 295d 296c BK II 420d-425b / *Philosophy* 620b 621c 631b

8 ARISTOTLE *Metaphysics* BK I CH I [980 22 8] 499 BK X I CH 7 [1072<sup>b</sup> 13 29] 602d 603a

9 ARISTOTLE *Part of Animals* BK I CH 5 [644<sup>b</sup> 22-645<sup>a</sup> 26] 168c 169a / *Ethics* BK VII II 12 [1152<sup>b</sup> 33 1153 i] 404a BK X CH 4 [1174<sup>b</sup> 5 1175<sup>a</sup> 2] 429 b CH 5-8 429d-434a / *Politics* BK VI C I 3 [1335<sup>a</sup> 2 b] 543b-d CH 5 544c 546 / *Rhetoric* BK I CH II [371<sup>b</sup> 4 10] 615a / *Poetics* II 4 [1418 4 19] 682 d

12 LUCRETIUS *Nature of Things* BK II [1-61]

15a d BK III [1053-1075] 43c d BK V [1-51] 61a d BK VI [1 41] 80a d

12 EPICTETUS *Discourses* BK III CH 10 185d 187a CH 15 190a 191a CH 23 195a 201a BK IV CH 4 225a 228a

12 AURELIUS *Meditations* BK III SECT 6 261a c SECT 9 261d SECT 18 262b-c BK IV SECT 16 264d BK V SECT 11 270b c BK VI SECT 12 274c BK X SECT 12 298c d

17 PLOTINUS *First Ennead* TR IV CH 12 17d / *Sixth Ennead* TR VII CH 30 336b-d

18 AUGUSTINE *Confessions* BK VI par 26 42d 43a BK IX par 23 25 68a-c

19 AQUINAS *Summa Theologica* PART I Q 5 A 4 REP 1 25d 26c PART I II Q 3 A 4 A 5 625a 626b Q 4 A 1 2 629d 631a Q 27 A 1 REP 3 737b d Q 34 A 3 770c 771c Q 35 A 5 775d 777a Q 38 A 4 788d 789b

20 AQUINAS *Summa Theologica* PART II II Q 180 A 7 614d 616a PA T III SUPPL Q 90 A 3 1014d 1016a

21 DANTE *Divine Comedy* PURGATORY XXX XXXI 99b 102b PARADISE X [7 27] 120b c XXXIII [40-66] 156c d

23 HOBBS *Leviathan* PART I 62c 63a

25 MONTAIGNE *Essays* 69d 72a

30 BACON *Advancement of Learning* 27c d 73c d

31 D. CARTES *Rules* I 1d / *Meditations* III 88d 89a

31 SPINOZA *Ethics* PART III PROP 53 413a PROP 58 59 415c-416b PART V PROP 32 36 450b 461 PROP 42 463b d

32 MILTON *Il Penseroso* 21a 25a

35 LOCKE *Human Understanding* BK II CH XV 176b 178a passim esp SC I 2 176b c SECT 15 177d CH XVI SECT 42 44 188c 189b

40 GILBY *De Line and F* II 645c d

42 KANT *Judgement* 534c 539d 551a 552a 586d 587a

43 MILL *Utilitarianism* 447b-450b passim

47 GOETHE *Faust* PART I [1178 1201] 29b [3217 3239] 79a b

48 MELVILLE *Moby Dick* 255

53 JAMES *Psychology* 755 758a

54 FREUD *Civilization and Its Discontents* 773d 774c

4c(1) Pleasure in the beauty of nature or art d *sine interesse* l pleasure

4 HOMER *Odyssey* BK VIII 222a 228a c passim 7 PLATO *Goias* 266d 267a / *Philebus* 60d

631b / *Laws* BK 653a 656c BK VI 720 d

9 ARISTOTLE *Parts of Animals* BK I CH 5 [645<sup>a</sup> 4 26] 168d 169a / *Ethics* BK III CH 10 [1118 i] 9] 364 BK VII CH 12 [1153 24 26] 404a

P I 1 c BK VI CH 3 [1337<sup>b</sup> 27 1338 29] 543a

CH 5 544c 546a / *Poetics* CH 4 [1418 4 23] 682 d CH 14 [1453<sup>b</sup> 12 14] 688b c

12 AURELIUS *Meditations* BK III SECT 2 259d 260a

19 AQUINAS *Summa Theologica* PART I Q 5 A 4 REP 1 25d 26c Q 91 A 3 2 3 486b-487d

- PART II Q 27 A I REP 3 737b d Q 32 A 8  
ANS 764c 765b
- 21 DANTE *Divine Comedy* PURGATORY II [106-  
133] 55c d v [22 105] 67c 68c
- 26 SHAKESPEARE *Merchant of Venice* ACT V SC  
1 [66-110] 431b d
- 29 CERVANTES *Don Quixote* PART I 184b d
- 31 S. NOZÄ *Ethics* PART V PROP 32 460b
- 32 MILTON *Samson Ago* c 337a-338a
- 37 FELDING *Tom Jones* 2 49a 50c
4. KANT *Judgement* 470c 471b 471d 473a  
476a-483d esp 479a d 485b-486d 495a  
496c 509c d 516d 518d 525a 527b 532  
d 534 539d
- 44 BOSWELL *Johnson* 254c d
- 46 HEGEL *Philosophy of History* INTRO 185c d  
PART I 220b c PART 2 267b 268b
- 47 GOETHE *Faust* PART II [92 8-9245] 224a b  
[963-969] 239b [11 288 303] 274b 275a
- 49 DARWIN *Origin of Species* 95 d / *Descent of  
Man* 301c 302a 563d 571b p sum 577b d
- 51 TOLSTOY II *and P* c BK VI 235a 238a  
passim esp 237 238a 257 259a BK VII  
278a-c 288c 290b 295c 296a BK X 450a  
451c BK XI 497d-498b BK XII 575d 576a
- 53 JAMES *Psychology* 157a 886b
- FREUD *General Introduction* 600d 601b /  
*Beyond the Pleasure Principle* 643c / *War and  
Death* 756 c / *Civilization and Its Discon-  
tents* 774a-c 775b c

#### 4c(2) The pleasure and pain of learning and knowledge

- 5 A SCHYLUS *Agamemnon* [16 183] 53d 54a
- 7 PLATO *Apology* 208a / *Republic* BK I 296a c  
BK VI 374d 375 KIX 421a-425b / *Theatetus* 515d 517b
- 8 A. ISIDORE *Metaphysics* BK I II 1 [98 2  
28] 499a
- 9 ARISTOTLE *Parts of Animals* BK I CH 5 [644<sup>b</sup>  
22-645 37] 168c 169b / *Ethics* K III 10  
[17<sup>b</sup> 8 32] 364b BK VI CH [1153 2 23]  
404c KX CH 3 [73<sup>b</sup> 15 8] 427d-428 CH  
4 [175 0-17] 429c / *Politics* K V I CH 3  
[33 27 338<sup>a</sup> 29] 543 c CH 5 [339 27 29]  
544d / *Rhetoric* K I CH [1371 30 33] 614d  
[137 4 10] 615a / *Poetics* K 4 [1448<sup>b</sup> 4 19]  
682c d
- 12 LUCRITIUS *Nature of Things* 921-95 [12b c KIV [5] 44 b
- 12 EPICURUS *De Rerum* BK II CH 14 153d  
153b KXIII H 23 201 203b
- 18 AUGUSTIN *Confessions* K I par 4 16 4c  
5b p 9-27 5d 7d
- 19 AQUINAS *Summa Theologiae* PART II Q 4  
A I REP 3 629d 630b Q 32 A I REP 759b d  
A 2 ANS 759d 760d A 3 760d 761c A 8 764c  
765b Q 33 A 3 767a d A 4 REP I 767d 768c  
Q 34 A 3 ANS 770c 771c H 37 A I 783d 784c
- 21 D. T. DE *Comedy* URATORY XX [124]-  
XXI [75] 84c 85d H RADII IV [115] V [12]  
111d 112b

- 22 CH. UCER *Prologue* [285 308] 164a H
- 23 HOBBS *Leviathan* PART I 62c 63a 78d  
79b-80a
- 24 R. BELAIS *Reign of King and Pantagruel* BK I  
26d 27d 29d 30c
- 25 MONTAIGNE *Essays* 70d 74a 111b d 244d  
246a
- 26 SHAKESPEARE *Love's Labour's Lost* ACT I  
SC I [70-93] 255a b
- 28 HARVEY *On the Generation of Animals* 331c 332a  
9 CERVANTES *Don Quixote* PART I 146a c
- 30 BACON *Advancement of Learning* 3c-4a 6d  
7a 27c d
- 31 DESCARTES *Geometry* BK I 297a H
- 31 S. NOZÄ *Ethics* PART III PROP 53 413a PROP  
58 415c
- 35 LOCKE *Human Understanding* 87a b BK II  
C I XVI SECT 44 188d 189b CH XXVIII SECT  
5 250
- 35 HUME *Human Understanding* SECT I DIV 6  
453b
- 41 G. BROWN *Decline and Fall* 523c 527a passim  
esp 524a b
- 42 KANT *Judgement* 532a d 531d
- 43 MILL *Utilitarianism* 451 d
- 44 BOSWELL *Johnson* 14b 15a c 130b 135b  
136a 309c d
- 45 LAVOISIER *Elements of Chemistry* REF 1d  
2a
- 47 GOETHE *Faust* PART I [354 736] 11a 19b
- TOLSTOY *War and Peace* BK I 47b-48d BK  
VIII 306b
- 53 JAMES *Psychology* 524b 525a 715b 729b  
730a
- 54 F. UD *Civilization and Its Discontents* 779d  
780b

#### 4d The pleasures of play and diversion

- 4 HOMER *Iliad* BK XXIII [26 -897] 164a 170d  
/ *Odyssey* BK VII 222a 228a c esp [104 35]  
223b 224d
- 5 EURIPIDES *Bacchantes* [1 209] 340a 341  
[370-431] 343a b / *Cyclops* [130-174] 441 d  
[495-589] 444d-445d
- 5 ARISTOTLE *On the Nature of Animals* [241 9] 458a b
- 6 HERODOTUS *History* K I 86b
- 6 THUCYDIDES *Peloponnesian War* K II 396d  
K II 442-443a
- 7 PLATO *Symposium* 149a 173 / *Republic*  
281c d / *Laws* K I 644d 663d esp BK I  
647c 648c 650c 652d BK I 653b c 655b  
656c 658c 660 662a 663d BK VII 717d  
718c BK VIII 731d 735b
- 9 ARISTOTLE *Ethics* BK II CH 7 [108 3 26]  
353d BK IV CH 8 375a d BK VI H 14  
[1154 2 9] 405c-406 c BK X CH 6 [1 6]  
8 1177<sup>a</sup> 11] 431a c / *Politics* K V I  
[1336 3 24] 541b d BK V CH 3 [1337<sup>b</sup> 7  
1335 29] 543 15 [1339 -CH 6 [34  
33] 544c 546b / *Rhetoric* K I CH [370<sup>a</sup> 4  
7] 613b c [37 34 137 7] 614b [37<sup>b</sup>  
33 137] 615b c



- 4 *The kinds of pleasure and pain different qualities of pleasure* 4d *The pleasures of play and diversions*
- 12 LUCRETIVS *Nature of Things* BK III [1053-1094] 43c-44a
- 14 PLUTARCH *Agamemnon* 489d 490b / *Alexander* 572b d
- 15 TACITUS *Annals* BK XIV 145a d 146b 147a
- 18 AUGUSTINE *Confessions* BK I PART 15 16 4d 5b BK III PART 2 4 13c 14b
- 19 AQUINAS *Summa Theologiae* PART I Q 1 A 6 REP 1 614a c Q 3 A 1 REP 3 759b d
- 22 CHAUCER *Poole* [747-821] 172a 173a
- 23 HOBBS *Leviathan* PART I 82b-d
- 24 RALPH LAIS *Gargantua and Pantagruel* BK I 1a 3 7a 8c 14c 15c 25a 26d BK II 97b-99b
- 25 MONTAIGNE *Essays* 538d 540b
- 29 CERVANTES *Don Quixote* PART I 186d 187c
- 30 BACON *Advancement of Learning* 54a b
- 33 PASCAL *Pensées* 125 183 195b 204b
- 37 FIELDING *Tom Jones* 265c 266d
- 39 SMITH *Wealth of Nations* BK V 346c 347d esp 347d
- 40 GIBSON *Decline and Fall* 90a b 502c 503a 583d 584b
- 42 KANT *Judgement* 537b-539d
- 43 MILL *Liberty* 308d 309a
- 44 BOSWELL *Johns* 88a 287b-c esp 287d [in 1] 309a c
- 46 HEGEL *Philosophy of History* PART II 267b 268b PART III 291d 292c
- 51 TOLSTOY *War and Peace* BK I 10d 11b 16a 18b 37a d BK V 254c 260a BK VII 278a 287a 296a 298d BK VIII 303a 305b esp 305a b BK XI 486c d BK XII 538a 539d
- 52 DOSTOEVSKY *Brothers Karamazov* BK VI 1 220 235d BK X 284b d
- 53 JAMES *Psychology* 716b-717a 727b 729a 732b
- 54 FREUD *Interpretation of Dreams* 250d 251a / *Beyond the Pleasure Principle* 641d 643c 651b-d / *Group Psychology* 690b-c / *Civilization and Its Discontents* 773a b
- 4e *The kinds of pain the pain of sense and the pain of loss or deprivation*
- 4 HOMER *Iliad* BK XVI 1 [126] 130a 131c BK X 2 [276-368] 139d 140c BK XXII [21-98] 155b 156a [405-515] 159c 160d BK XXIV 171a 179d esp [480-805] 176b 179d
- 5 AESCHYLUS *Agamemnon* [399 455] 56b-57a
- 5 SOPHOCLES *Electra* [86-309] 157a 158b
- 5 EURIPIDES *Medea* [1090-1115] 221b c / *Alceste* [861 1005] 244d 245d / *The Women of Samos* [572 705] 274d 276a [1156-1333] 279d 281a c / *Electra* [112 14] 328a d
- 5 PLATO *Phaedrus* 250b 251d / *Gorgias* 277d 280d esp 280b-d / *Philebus* 619d 633a
- 9 ARISTOTLE *Ethics* BK III CH II [1118b28-1119 5] 365b BK VII CH 13 14 404d-406a c

- pass m BK X CH 3 [1173b7 19] 427d-428a CH 5 [1175b16-23] 430a b
- 12 LUCRETIVS *Nature of Things* BK III [459-5 5] 36a d [634-669] 38b c [830-1023] 40c 43b BK IV [324 331] 48c [1058-1191] 57d 59d
- 13 VIRGIL *Aeneid* BK I [194 209] 108a b BK II [735-794] 145a 146b BK IX [473-502] 291b-292b BK X [833-856] 325a b BK XI [29-59] 328b 329b [139-181] 331b-333a BK XII [693 613] 370a
- 18 AUGUSTINE *City of God* BK XIV CH 1, 388d 390a
- 19 AQUINAS *Summa Theologiae* PART I Q 64 A 3 337a-c PART I II 35 722b 780c
- 20 AQUINAS *Summa Theologiae* PART III Q 1 A 6 792c 793c Q 18 A 6 REP 3 814d-815d PART III SUPPL. Q 97 A 2 1066d 1067b A 5 1068c 1070a
- 21 DANTHE *Divine Comedy* HELL, III [1 18] 4a b IV [13-45] 5c d V 7a 8b esp [121 123] 8b VI [94 111] 9b c XIV [4 72] 19c 20b PURGATORY VII [1 36] 62c d XXIII [1 75] 83b-89a
- 22 CHAUCER *Troilus and Criseida* K V 120b-155a esp STANZA 29-106 124a 134a ST 2 174 182 143a 144a / *Tale of Melibeus* PART 4 401b-402b
- 23 HOBBS *Leviathan* PART I 62c 79b-d PART III 195b d PART IV 271a
- 26 SHAKESPEARE *3rd Henry VI* ACT II SC VI [61 84] 83d 84a / *Two Gentlemen of Verona* ACT III SC I [170-187] 242b / *Romeo and Juliet* 285a 319a c esp ACT III SC III [1 10] 304d 305c ACT V SC III 315d 319a c / *Richard II* ACT I SC II [58 74] 323b c SC III [139-309] 325a 326d ACT II SC II [1 72] 331a d ACT IV SC I [162 318] 343b 344d / *Much Ado About Nothing* ACT V SC I [1 38] 524c 525a / *Julius Caesar* ACT III SC I [148 275] 582a 583b
- 27 SHAKESPEARE *Hamlet* ACT I SC II [63 117] 32b-d / *Othello* ACT I SC III [199-22] 211a b / *King Lear* ACT V SC III [257 273] 282b / *Antony and Cleopatra* ACT IV SC XV [59-91] 344c 345a ACT V SC I [3 48] 345b-c
- 29 CERVANTES *Don Quixote* PART II 333b
- 31 SINOZA *Ethics* PART III PROP 55 413b-414
- 32 MILTON *Paradise Lost* K I [44 74] 94b 95a BK II [81-92] 113a [521-6 8] 122b-125a BK I [327 343] 203b [386-405] 204b 205a [430-468] 205b 206b / *Samson Agonistes* [606-632] 352b 353b
- 35 LOCKE *Human Understanding* BK II BK XX 176b 178a pass m
- 46 HEGEL *Philosophy of History* PART I 245b d
- 51 TOLSTOY *War and Peace* BK II 109d 110a c BK X 551d 554a BK X 614a 618b
- 52 DOSTOEVSKY *Brothers Karamazov* BK I 160b 163 169c 170b BK XII 398a d
- 53 JAMES *Psychology* 554a b
- 54 FREUD *Inhibitions, Symptoms and Dreams* 736c 740c esp 736c 737b 739b-c 743b-744a 752c 754a

5 The quantity of pleasure the weighing of pleasures the limits of pleasure

7 PLATO *Protagoras* 57d 62d / *Phaedo* 225d 226b / *Go gas* 275d 277b / *Republic* BK IV 421a-425b / *Timaeus* 474b d / *Philebus* 618a 625c 631d / *La us* BK V 689d 690c

9 ARISTOTLE *Part of Animals* BK I CH 5 [644<sup>b</sup> 32-645<sup>a</sup>] 168d / *Generation of An m ls* BK I CH 17 [721<sup>a</sup> 18] 261c / *Ethics* BK III CH 10-11 364b 365d passim BK VII CH 4 398a 399 passim K V CH 3 [1173 13 28] 427b c CH 4 [1174<sup>b</sup> 15 1 75 9] 429a c / *Politics* BK I CH 9 [1258<sup>a</sup> 14] 452a b / *Rhetor* BK I CH 7 [1361<sup>b</sup> 23-26] 606c

11 LUCRETIVUS *Nature of Things* BK II [1 36] 15a c BK III [931-962] 42a B [1076-1 84] 44 K IV [1 58 1120] 57d 58d K V [1412-1435] 79b d

19 AQUINAS *Summ Theologica* PART I Q 98 A 2 ANS 2 d REP 3 517d 519a PART II Q 2 A 6 RE 2 619d 620d Q 30 A 4 R 3 751c 752b Q 31 AA 5-6 755c 757 Q 32 A 1 REP 3 759b-d A 2 ANS and REP 1 759d 760d A 7 REP 3 763c 764b Q 33 A 2 AN 766a 767a Q 36 A 3 R 1 782b 783a Q 37 A 4 ANS 785d 786c Q 38 786d 789d passim

20 AQUINAS *Summa Theologiae* P RT II P Q 28 A 3 528d 529c PART II SUPPL Q 71 A 8 REP 3 909d 910d Q 93 A 1 ANS and REP 4 1037d 1039a

21 D NT *Dile Com dy* HELL VI [94-1 1] 91b-c

23 H EE S *Leviath* PART 75d

25 MONTAIGNE *Essays* 128 129d 326b 327b

33 PASCAL *Pensées* 125 7 195b 203b

35 LOCKE *Hum Under ta d ng* BK II CH XXI

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38 ROUSSEAU *I quality* 363a b

41 GIBSON *Dile a d F II* 234c

42 KANT *Practical Reason* 298d 300a / *Judgement* 584d 585c

43 MILL *Utilitarianism* 448a-450b 463 b

46 H O L *Philosophy of Right* INTRO P r 20

17a ADDITIONS 15 118d

47 GOETHE *Faust* PART I [1765 1775] 42 b

51 TO ST Y *War and Peace* BK X 577c 578a

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54 FREUD *General Introduction* 592d 593a /

*Beyond the Pleasure Principle* 639 663d esp

639a 640a, 643c 645d 646a 648b 650

662c 663a / *Civilization and Its Discontents*

771c 776b esp 772 b 773c

6 Pleasure and the good

6a Pleasure as the only good or as the measure of goodness in all other things

7 PLATO *Protagoras* 57d 62d / *Go gas* 275b-280b / *Republic* BK IV 384b-d 386b / *Philebus* 609 639 c

8 ARISTOTLE *Prior Analytics* BK I CH 4 68b / *Topics* BK V CH 9 [60<sup>b</sup> 6-23] 218a b

9 A ISTOTLE *Ethics* BK I CH 5 [1095<sup>b</sup> 13 21] 340d BK VII CH 13 [1153<sup>b</sup> 36] 404d-405b BK V 2 426c-427b CH 3 [1173<sup>b</sup> 31 1174 12] 428a

12 LUCRETIVUS *Nature of Things* BK II [1-21] 15a b

17 PLOTINUS *Second Ennead* TR IX CH 15 74d 75b

18 AUGUSTINE *City of God* BK V CH 10 225b 226a BK X CH 18 310c d BK XIV CH 1 507a 509a

19 AQUINAS *Summa Theologiae* PART II Q 1 A 7 ANS 614c 615a Q 2 A 6 619d 620d Q 34 A 3 770c 771 Q 39 A 4 792a d

24 RAB LAI S *Gargantua and Pantagruel* BK IV 284c

25 MONTAIGNE *Essays* 28 d

30 BACON *Advancement of Learning* 71d 72a

31 SPINOZA *Ethics* PART IV PROP 8 426b-c

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32 MILTON *Paradise Lost* BK IV [885-899] 171b-

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35 LOCKE *Human Understanding* BK II CH XX

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190d c P SECT 43 188d SECT 55-56 192c

193b SECT 63 194d 195a CH XXVIII SECT 5

29c d

42 KANT *Practical Reason* 298c 300d esp 298c d

314d 318b / *Judgement* 478a-479a

43 MILL *Utilitarianism* 445a 476a c passim esp

447b-457b 461-464d

53 JAMES *Psychology* 808b 814a esp 811b 813b

54 FREUD *Uncertainty* 418d 420c esp 420b c /

*General Introduction* 574b d 592 593a /

*Civilization and Its Discontents* 772a c

6b Pleasure as one good among many pleasures as one object of desire

7 PLATO *Gorgias* 275b 280d / *Republic* K II

310c d / *Philebus* 609 639a

8 ARISTOTLE *Prior Analytics* K I CH 40 68b

/ *Topics* BK I C 12 [ 7<sup>a</sup> 23 25] 163d CH 3

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BK IV CH 4 [124 15-2 ] 172d [ 24<sup>b</sup> 4] 173b

9 ARISTO *Motion of Animals* CH 6 [700<sup>b</sup> 23-

3 ] 236 / *Ethics* BK III CH 4 359a P V

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18 AU U TIN *City of God* BK XIX CH 1 4

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19 AQUINAS *Summa Theologiae* PART I Q 5 A 6

AN ND REP 27c 28b PART II Q 1 A 6

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ANS and REP 619d 620d Q 34 A 2 R I

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21 DANTE *The Comedy of Divine Government* XXX

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25 MONTAIGNE *Essays* 90d 91 109d 112a

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40 GIORDANO BRUNO *De la causa della* 192b

(6) *Pleasure and the good* 6b *Pleasure as one good among many pleasures as one object of desire*

43 MILL *Utilitarianism* 461c 464d

44 BOSWELL *Johnson* 404b e

49 DARWIN *Descent of Man* 316a 317a esp 316b d [fn 42]

51 JES *Psychology* 808b 814b esp 810b 811a 812b 814b

6c Good and bad pleasures higher and lower pleasures

7 PLATO *Politeia* 57d 62d / *Gorgias* 277d 280d esp 280b d / *Republic* bk viii 409d 410c bk ix 421a 427b / *Philbus* 635c 639a c / *Lysis* bk v 689c 690c bk viii 736b c 738a c

9 ARISTOTLE *Ethics* bk i ch 8 [109<sup>7</sup> 7 30] 344c d bk iii ch 10 12 364b 366a c bk ii ch 4-5 39 a 399d ch ii [115<sup>2</sup> 19-23] 403d c i 12 [115<sup>1</sup> 26-36] 404c d ch 14 405b 406 c bk v ch 3 [173<sup>2</sup> 10-1174 12] 428a b ch 5 [1175<sup>2</sup> 24 1176 29] 430b d ch 6 [1176<sup>8</sup> 1/7 11] 431a c / *Politics* bk viii ch 3 [1338 1-9] 543b

11 LUCRETIVUS *Nature of Things* bk iv [1073 1078] 58a b

17 PLOTINUS *First Ennead* tr iv c i 12 17d / *Third Ennead* tr v ch i 100c 101b / *Sixth Ennead* tr vii ch 26 334c d

18 AUGUSTINE *Confessions* bk vi par 26 42d 43a bk viii p 17 8 54c 55a

19 AQUINAS *Summa Theologiae* PART II Q 34 AA 1 3 768c 771c

23 HOBBS *Leviathan* PART I 63a

25 MONTAIGNE *Essays* 28a d 424d 426b

30 BACON *Advancement of Learning* 6d 7a 27c d 3c 74a

31 SPINOZA *Ethics* PART III PRO 56-57 414a 415b PART IV PROP 43 437b e

40 GIBSON *Decline and Fall* 38b

42 KANT *Practical Reason* 298c 300d esp 298c d

43 MILL *Utilitarianism* 447b 450b passim 461c 464d

6d Pleasure as the accompaniment of goods possessed the satisfaction of desire

7 PLATO *Gorgias* 275b 278d / *Republic* bk x 423 424c / *Philebus* 620a b

8 ARISTOTLE *Topica* bk iii ch 2 [117<sup>2</sup> 23 25] 163d ch 3 [118<sup>2</sup> 27 36] 165d 166a / *Metaphysics* bk xii ch 7 [1072<sup>2</sup> 13 29] 602d 603a

9 ARISTOTLE *Ethics* bk i ch 8 [1099<sup>7</sup> 3 1] 344c d bk iii ch 10-11 364b 365d passim bk vii ch iii 13 403d 405b bk x ch 3 [1173<sup>7</sup> 7] ch 5 [1176<sup>2</sup> 29] 427d 430d esp ch 4 [1175 10-22] 429c ch 5 [1176 3 29] 430c d / *Politics* bk ii ch 7 [126 7 12] 462c d

17 PLOTINUS *Sixth Ennead* tr vii ch 27 335b

18 AUGUSTINE *Confessions* bk vi par 9-10 37c 38b / *Christian Doctrine* bk i ch 3 4 625b c

19 AQUINAS *Summa Theologiae* PART I Q 5 A 6 ANS 27c 28b PART II Q 2 A 6 619d 620d Q 3 A 4 625a 626b Q 4 AA 1 2 629d 631a Q 11 665b d 669b Q 30 A 4 REP 3 751c 752b Q 32 A 1 ANS 759b d Q 34 768c 772b

20 AQUINAS *Summa Theologiae* PART II II Q 28-29 527b 533a PART III SUPPL. Q 69 A 1 ANS 889c 890c

21 DANTE *Divine Comedy* PURGATORY I III [19-39] 80a b PARADISE III [58-90] 109d 110b XXXIII [46 48] 156c

23 HOBBS *Leviathan* PART I 76c d

42 KANT *Practical Reason* 98a 300a 341c 342a / *Groundwork* 470c 471b

43 MILL *Utilitarianism* 448d 449c

49 DARWIN *Descent of Man* 308 b

53 JAMES *Psychology* 725b 726a 812a 813b

54 FREUD *Interpretation of Dreams* 377c d / *Notes* 412d 413d esp 413d / *General Introduction* 574a d / *Beyond the Pleasure Principle* 663a / *Ego and Id* 711d 712

6e Pleasure as intrinsically evil or morally indifferent

7 PLATO *Politeia* 60d 61c / *Phaedo* 224a 246c 233d 234c / *Gorgias* 263c 270

9 ARISTOTLE *Ethics* bk vii ch 12 [1155 15-23] 404b c c i 13 [1153<sup>2</sup> 10] 404d 405a bk v ch 1 [1172<sup>2</sup> 28 33] 426b ch 2 [1173 7 13] 427b

12 LUCRETIVUS *Nature of Things* bk ii [14 21] 15a b

12 EPICTETUS *Discourses* bk ii ch ii 151a b ch 19 163c 164a bk iii ch 24 203c 210a

12 AURELIUS *Mediations* bk ii sect 10 12 257d 258c sect 16 259a bk iii sect 6 261a-c bk vi sect 16 275b d sect 51 279b e bk vii sect 27 281d sect 64 284a b bk viii sect 10 285b sect 19 286a 87a sect 28 287c sect 39 288 sect 47 289b c bk ix sect 1 291a c bk x sect 34 301a b bk xii sect 3 307b d

14 PLUTARCH *Marcus Cato* 277c

18 AUGUSTINE *City of God* bk ix ch 4 287a 288b bk xiv ch 8 381c 383a

19 AQUINAS *Summa Theologiae* PART II Q 34 A 1 768c 769d Q 39 790a 792d

25 MONTAIGNE *Essays* 90d 91b 118a 122a 124c 125a 165c 169a 202a b 234b e 432b d 537d 543a c esp 541d 542c

31 SPINOZA *Ethics* PART IV PROP 41 43 431a c APP NDIX XXXI 450c

33 PASCAL *Pensées* 160 202a b

40 GIBSON *Decline and Fall* 192c 193

42 KANT *Pure Reason* 248 d / *Fundamental Metaphysics of Moral* 256 257d 258d 259a 262a 263c 265b / *Practical Reason* 297a 318b esp 298a 300a 304d 307d 325a 327d 329a 331a 338c 355d / *Pref. Metaphysical*

- Elements of Ethics 365b 366d / I : Meta  
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44 BOSWELL J. hanson 393a b

7 Pleasure and happiness the r distinct on  
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- 5 SOPHOCLES *Antigone* [1155-1171] 140d 141a  
5 EURIPIDES *Alceste* [773-802] 243d 244a /  
*Cycl ps* [163 174] 441d  
7 PLATO *Protagoras* 57d 62d / *Gorgias* 275b-  
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8 ARISTOTLE *Metaphysics* K VII CH 7 [1072<sup>b</sup>  
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9 ARISTOTLE *Ethics* BK I CH 5 [1095<sup>b</sup> 13 22]  
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1154<sup>b</sup>] 404d-405b BK IX CH 9 423a-424b  
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431d 432a / *Politics* BK VI CH 3 [1338 1-9]  
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12 LUTETIUS *Nature of Things* K II [1 36]  
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18 EPICTETUS *Discourses* K II CH 19 162  
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14 PLOVARCH *Demetrius* 747b  
17 P OVINUS *First Enn ad* TR IV CH 2 12b  
13c CH 6-7 15a 16a CH 17d TR V CH 4  
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19 AQUINAS *Summa Theologica* PART I Q 26  
A 4 ANS a d 2 P 2 151c 152a-c PART II  
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20 AQUINAS *Summa Theologica* PART I Q 84  
A 4 ANS 176d 178a PART II II Q 28 527b  
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8 A 4 R P 4 966d 967d Q 90 A 3 1014d  
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21 D N T *Divine Comedy* HELL, v-VI 7a 9  
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22 CH U R *Principles* [331 360] 165 / *Par  
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24 RA ELIAS *Genius a d Pa t gruel* K I  
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25 MONTGOMERY *Essays* 28 d 71a 73 90d  
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- 26 SHAKESPEARE *Love's Labour's Lost* ACT I  
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29 CERVANTES *Don Quixote* PART I 193b  
30 BACON *Advancement of Learning* 71d 72b  
33 PAUL L *Pensées* 125 183 195b 204b  
35 LOCKE *Human Understanding* BK II CH VII  
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40 GIBSON *Decl e a d Fall* 192b  
41 GIBSON *Decl e a d Fall* 234 d  
42 KANT *Fund P in Metaphysics of Morals* 256c  
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43 MILL *Utilitarianism* 447b-457b esp 448a  
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44 BOSWELL *Johnson* 378a b  
46 H G L *Philosophy of Right* ADDITION 15  
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47 GOETHE *Faust* PART I [ 741-1775] 41b-42b  
51 TOLSTOY *War and Peace* BK V 259d 260a  
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52 DOSTOEVSKY *Others* K ama i BK I 1a  
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54 FRANK *General Introduction* 599b d / *Criti  
cism and Its Discontents* 771a 776b esp 772a-c

7a Pleasure and pain a relation to love and  
friendship

- 4 HOMER *Iliad* K XVIII [1 126] 130a 131c BK  
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e* K XVII [290-3 7] 280 c  
5 A HYLLUS *Agamemnon* [399-455] 36b 57a  
5 EURIPIDES *Medea* [ 90-1 5] 221b / 41  
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7 PLATO *Phaedrus* 120b 122 126c 127c /  
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9 ARISTOTLE *Parts of Animals* K I CH 5 [64<sup>b</sup>  
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8 375 d BK V [ 2-6 407a-410 CH  
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12 LUTETIUS *Nature of Things* BK V [1 37  
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12 LUTETIUS *Discourses* BK I CH 22 167d  
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13 VIKAR *Alea d* K V [ 79-7 5] 174b 186b  
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18 AUGUSTINE *Confessions* BK II par 16-17  
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19 AQUINAS *Summa Theologica* PART I Q I  
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20 AQUINAS *Summa Theologica* PART II Q 28  
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21 DANTE *Divine Comedy* HELL V 7a 8b  
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22 CH UIC *Tostits and Crestids* 1a 155a esp  
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23 HOES *Lisaihan* PART I 85b

25 MONTAGNE *Essays* 398 399d 426 427d  
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27 SHAKESPEARE *Hamlet* ACT I SC II [68 117]  
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345b e / *Timon of Athens* 393a 420d / *Son  
nets* 586a 609d p a m

29 C KANT *Don Quixote* PART I 73d 89

31 S PINOSA *Ethics* PART I PROP 12 13 400b d  
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32 MILTON *Paradise Lost* BK III l 0-6 7]  
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35 LOCKE *Human Understanding* K I C XX  
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37 F LD V *Timon* 126c 127b 235b 238d

38 ROUSSEAU *Inequality* 345d 346b

43 MILL *Utilitarianism* 451b c

47 GOETHE *Faust* PART I [3620 3645] 88b 89a

49 DARWIN *Descent of Man* 308a 313a passim  
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51 TOLSTOY *War and Peace* BK I 30a 31a 56b  
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52 DOSTOEVSKY *Brothers Karamazov* BK I 4a  
5b BK II 32d 36c BK III 58d 59b 69d 70c  
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282b 283c BK XI 324a b EPILOGUE 40 a  
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53 JAMES *Psychology* 391b 392a

54 FREUD *Instincts* 418c-421a c esp 420b c /  
*Civilization and Its Discontents* 774d 775  
782d 783b

7b The life of pleasure contrasted with other  
modes of life the ascetic life

OLD TESTAMENT Numbers 6 1-5 / *Ecclesiastes*  
2 1 11 3 12 2 5 18 20 8 14 15- [D] *Ec  
clesiastes* 2 1 11 3 1 2 5 17 19 8 14 15  
/ *Isaiah* 5 11 12 22 12 13 28 17-8- [D]  
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*Ecclesiasticus* 18 30 3 19 1- 23 5-6- [D]  
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NEW TESTAMENT Luke 1 13 17 8 5 15 16 19  
25 / *Romans* 1 18-32 8 1-13 13 13 14  
/ *1 Corinthians* 5 9-13 6 13 7 9 7 3-8  
9 24 27 / *Galatians* 5 16-25 / *Philippians*  
3 18 19 / *Colossians* 3 5-8 / *1 Thessalonians*  
4 3 7 / *1 Timothy* 4 1 10 5 6 / *11 Timothy* 3  
/ *Titus* 2 11- 4 3 3 / *Hebrews* 11 24 26 /  
*Jam* 4 1 6 5 5 / *1 Peter* 4 1-5

5 EURIPIDES *Alceste* [782 802] 244a / *Cybele*  
[139-174] 441c d [495-589] 444d 445d

5 ARISTOPHANES *Birds* [685-800] 551b 553a /  
*Plutus* [415-6 8] 633d 636d [8 2-832] 638

7 PLATO *Phaedo* 223d 225a / *Republic* BK  
X 439b 440 / *Timaeus* 474b d / *Phaedrus*  
635 639a c / *Lysis* BK II 656c 658b BK  
689d 690 BK VII 715d 716a BK VI 1 737c  
738c / *Symposium* 801b 806a

9 ARISTOTEL *Ethics* BK I CH 5 340d 341d X  
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2 18 13] 434 d

12 LUTHER *Nature of Things* A II [1-54]  
15a d

12 EPICURUS *Discourses* K III CH 10 185d  
187a 1 15 190a 191a CH 22 195 201a CH  
24 203c 210a BK IV CH 4 225 228a c 1 6  
230b 232c

12 A RELIUS *Meditations* A II SECT 6 261a c  
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14 PLUTARCH *Alcibiades* 161d 162b / *Demetrius*  
15 732d 733a 747b / *Alexander* 751b c 755d  
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17 PLOTINUS *First Ennead* TR IV CI 4 16 14a  
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18 AUGUSTINE *Confessions* BK II PAR 2 8 9b  
10d BK VIII PAR 26-27 60b c / *City of God*  
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19 AQUINAS *Summa Theologica* PART I Q 18  
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20 AQUINAS *Summa Theologica* PART II-II Q  
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657d PART III SUPPL. Q 8 A 4 REP 4 960d  
967d

21 D NT *Diti e Comedy* PURGATORY XVII  
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22 CHAUCER *Prologue* [285-308] 164a b / *Wife*  
*of Bath's Prologue* [5583-5774] 256a 259a

23 HOBBS *Leviathan* PART II 155d 156a  
24 RABELAIS *Gargantua a d Pantagruel* BK  
I 46a-49c 60c 66b esp 65c 66b BK II  
1 6a d

25 MONTAIGNE *Essays* 28a d 109d 112a 128c  
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26 SHAKESPEARE *Love's Labour's Lost* ACT  
5 I [1 62] 254 256a / *1st Henry IV* ACT 5  
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30 BA CON *Advancement of Learning* 7d 8b  
54a b 69d 74b esp 71d 72a 73c 74a

32 MILTON *Il Pensiero* 21a 25a esp [156-176]  
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40 G B CON *Decline and Fall* 38a b 60a c  
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41 G B CON *Decline and Fall* 174c 175c

43 MILL *Liberty* 296b c / *Utilitarianism* 448a  
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47 GOETHE *Faust* PART I [1765-1775] 42a

51 TOLSTOY *War and Peace* BK V 273 274a  
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52 DOSTOEVSKY *Boris Godunov* esp BK  
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73b K IV 88d BK VI 146b d 170d

54 FRUDENBERG *General Introduction* 624a 625b /  
*General Introduction* 772 774d esp  
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## ■ The discipline of pleasure

8 Pleasure and pain in relation to virtue and the  
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4 HOPE *Odyssey* 183a 322d esp BK IV [265-  
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5 AEs HYL *Agamemnon* [160-183] 53d 54a

5 So OCL *Philoctetes* 182 195a b P [316-  
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6 THU YD ES *Peloponnesian War* BK II  
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7 PLATO *Laches* 32c / *Phaedrus* 120a 122a /  
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/ *Seventh Letter* 807a 814b

8 ARISTOTLE *Topics* BK VI CH II [146<sup>b</sup> 24 27]  
200d / *Physics* BK VII CH 3 [246<sup>b</sup> 20-247 19]  
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9 ARISTOTLE *History of Animals* BK VII CH I  
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1 EPIC *Discourses* BK II CH 21 194a b  
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12 AURELIUS *Meditations* BK II S CT 10 11  
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262d 263a c BK V SECT 6 272c BK VII  
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14 PLUTARCH *Pericles* 139a 140d / *Coriolanus*  
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19 AQUINAS *Summa Theologica* PART I Q 95  
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20 AQUINAS *Summa Theologica* PART I Q 59  
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21 DANTE *Divine Comedy* HEL. V [1] VI [1] 641  
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22 CHU YD *Tale of the Heavens* par 4-7 401b-  
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(8) *The discipline of pleasure* 8a *Pleasure and pain in relation to the restraint of temperance and the endurance of courage*

- 23 HOES *Letithia* PART II 138d 139a 163d 164a
- 24 RAB LAIS *Gargantua and Pantagruel* BK I 65c-66b BK IV 234a 240a
- 25 MONTAIGNE *Essays* 28a d 71a 72a 89b-91b 109c 112a 118a 119d 162c 167a esp 165c 167a 200d 205b 234b c 350d 351b 353 354b 365b 367b 392a b 394a 395b 406 408b 424d 426b 431 432d 474b d 537d 543a esp 540c
- 30 II CON *Adrian cement of Learning* 71d 72a
- 31 SPINOZA *Ethics* PART IV PROP 4 73 437a 447a
- 32 MILTON *Acopagutia* 390b 391a
- 33 PASCAL *Provincial Letters* 64b 67b / *Pensees* 100 202a II
- 35 LOCKE *Human Understanding* BK II CH XVI SECT 35 185b d SECT 59 193d 194a SECT 71 197b 198a
- 37 FIELDING *Tom Jones* 9a c
- 38 ROUSSEAU *Inequality* 330d 331b 343d 345c
- 40 GIBSON *Decline and Fall* 192b 193c 596c 597a
- 42 KANT *Pure Reason* 173c d / *Pref Metaphysical Elements of Ethics* 368d 369a
- 43 MILL *Utilitarianism* 461c-464d
- 44 BOSWELL *Johnson* 116b
- 45 DRYDEN *Wentworth* 315c 317a esp 316c
- 51 TOLSTOY *War and Peace* XI 15b 16a BK I 122b c BK V 201a c 203a d II VI 245b c 248b 250a BK VIII 321d 322d 336b-337d BK IX 369c d IX 426b BK XI 481a 482a BK XII 551d 554a BK X 577a 578b BK XIV 605b d EP 606c 652a
- 52 DOSTOEVSKY *Others' Karma* I BK XI 343d
- 54 FRUD *Civilization and Its Discontents* 793a 794b / *New Introductory Lectures* 831b

8b *The conflict between pleasure and duty or the obligation of justice the pleasure principle and the reality principle*

- OLD TESTAMENT *Proverbs* 5:13 6:23 35 7:6-27 21 7 23:20-22 29-35 / *Ecclesiastes* 1:16-17
- APOCRYPHA *Ecclesiasticus* 18 30 32 19 1-5 31 33 31 37-29-31--(D) OT *Ecclesiasticus* 18 30-32 19 1-5 3 12 42 37 32-34
- 5 EURIPIDES *Hippolytus* [373 430] 228b d
- 6 THUCYDIDES *Peloponnesian War* X V 506b
- 7 PLATO *Republic* BK II 311a 315d / *Lysis* BK X 748a-c
- 12 EPICUREAN *Discourses* BK I CH 3 108b c BK II CH I 150 151b CH 19 167 164b BK III CH 2 177c 178d CH III 185d 187a CH 24 203 210a
- II AURELIUS *Meditations* BK I SECT 6 261a c

- BK VI SECT 2 274a BK VII SECT 41 282b c SECT 55 283b c BK VIII SECT 10 286b SECT 19 286d 287a SECT 32 287d 288a BK IX SECT I 291a c
- 32 MILTON *Paradise Lost* BK VIII [600-6] 243a 245b
- 33 PASCAL *Provincial Letters* 64b-67b
- 42 KANT *Pure Reason* 234c 240b esp 235a b, 238c 239a / *Fund Prim Metaphysic of Morals* 253a 287d esp 256c 257d 258d 259a 261c d, 262a 263c 267b d 282b-283d 286a-c / *Practical Reason* 291a 361d esp 298a 300a 304d 307d 325a 327d 329a 331a 338c 353d / *Pref Metaphysical Elements of Ethics* 365a 379d esp 365b 366d 369c 373b / *Metaphysic of Morals* 387b 388c / *Judgement* 48a 479d 584d 587a esp 586a 587a 588b [in] 591b 592a 594c 596c
- 43 MILL *Utilitarianism* 452b-456 passim 4 c 461c passim 464d-476a c passim
- 47 GOETHE  *Faust* PART I [3025 3072] 73b 74b [3217-3373] 79a 82a
- 49 DRYDEN *Descent of Man* 309c 314c passim esp 310d
- 54 FREUD *General Introduction* 452c d 574a 592c 593b 599b-d 624a 625b / *Beyond the Pleasure Principle* 640b d / *Ego and the Id* 70 c d 772b-d 784a d 799c 800a / *New Introductory Lectures* 837d 839b esp 838a b

8c *Perversions or degradations in the sphere of pleasure and pain sadism and masochism*

- OLD TESTAMENT *Genesis* 19:4 II / *Exodus* 22:19 / *Leviticus* 18:22 23 20:13 16 / *Deuteronomy* 27:21
- NEW TESTAMENT *Romans* 1:26-32
- 5 EURIPIDES *Bacchantes* 340a 352a c
- 7 PLATO *Lysis* BK I 645d-646c BK VIII 735d 738b
- 9 ARISTOTLE *History of Animals* BK VII CH I [581b II 22] 107b / *Ethics* K VII CH 5 309a d C I 6 [1149b 24 1150 8] 400b-c BK X CH 5 [1,6 15 25] 430 d
- 12 EPICUREAN *Discourses* BK I CH 3 108b-c
- 14 PLUTARCH *Dion* 783c 784a
- 15 TACITUS *Annals* BK VI 86b b BK XI 103b c 107b c 108b c BK XIV 145 d 146b 147a BK XV 166b-c / *Historiae* BK II 265a b
- 18 AUGUSTINE *Christian Doctrine* BK II CH 18-21 664d 666b
- II AQUINAS *Summa Theologica* PART I II Q 31 A 7 757c 758b
- 20 AQUINAS *Summa Theologica* PART II Q 63 A I REP 5 879c 881d PART III SUPPL. Q 81 A 4 R 4 966d 967d
- 21 DRYDEN *The Comedy of Hell*, XI [22-90] 15b-16a XV-XVI 21a 23d XVII [1-99] 25b 26b PU GATORY XIX [1-69] 81c 82a
- 25 MONTAIGNE *Essays* 80d 90c 115a 122a 166b 167a 427b-d

- 27 SHAK SPEARE *Sonnets* CXXIX 606a  
 31 SPINOZA *Ethics* PART III THE AFF CTs DEP  
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 3 MILTON *Paradise Lost* BK IX [990 1133] 269a  
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 36 SWIFT *Gulliver* PART II 67b  
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 41 GIBSON *Decline and Fall* 93d 94a 169a b  
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 44 BOSWELL *Johnson* 355a  
 46 HE EL *Philosophy of History* PART II  
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 51 TOLSTOY *War and Peace* BK IV 174b 188a  
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 52 D TOLV KY *Letters* Karam ov BK I 4a d  
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 53 JAM *Psychology* 718a 720b  
 54 JAM *Origin and Development of Philosophy*  
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 5 18 21 21 8 21  
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 5 EUMIDES *Bechantes* 340a 352a c esp [ 15-  
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 7 PLATO *Gorgias* 283a 285a / *Republic* BK I  
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 9 ARISTOTLE *Ethics* BK V CH [ 1 9<sup>b</sup>19-24]  
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 14 PLUTARCH *Lycurgus* 32 -48d esp 36b 37b /  
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 15 TERTULLIAN *Adversus* K II 31a b K III 57b 58d  
 20 AQUINAS *Summa Theologiae* ART II Q  
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 25 MONTAGNE *Essays* 131b 132a  
 27 SHAKSPEARE *Measure for Measure* 174a  
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 30 BACON *Advancement of Learning* 54 b  
 32 MILTON *Areopagitica* 390 b 393 395b  
 35 LOCKE *Treatise* 8c d  
 38 MONTQUIEU *Spirit of Laws* BK V 19a d

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 38 ROUSSEAU *Social Contract* BK IV 434b 435a  
 39 SMITH *Wealth of Nations* BK II 149d 150a  
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 40 GIBSON *Decline and Fall* 100c 101b 484c d  
 41 GIBSON *Decline and Fall* 93d 94a  
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 43 MILL *Liberty* 302d 312a 314b 316b  
 44 BOSWELL *Johnson* 301c d  
 54 FREUD *Group Psychology* 690b-c  
 10 The social utility of pleasure and pain  
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 7 PLATO *Protagoras* 46b / *Republic* BK I  
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 18 AUGUSTINE *Confessions* BK I part 14 23 4 7a  
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 24 RAULAIS *Gargantua and Pantagruel* BK I  
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 25 MONTAIGNE *Essays* 16c d 70d 74a 90d  
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 41 GIBSON *Decline and Fall* 40d 41a  
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 44 BOSWELL *Johnson* 191b 199 200d 309c d  
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 51 TOLSTOY *War and Peace* K I 47b-48d BK  
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 53 JAM *Psychology* 290a 291a  
 54 FREUD *War and Death* 759b / *New Introductory Lectures* 876c  
 10b The use of pleasure and pain by or to o-  
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 7 PLATO *Pig* 45b-d / *Apology* 208  
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- (10) *The social utility of pleasure and pain* 10b  
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- 9 ARISTOTLE *Ethics* BK II CH 3 350a-c BK VII CH II [1152<sup>b</sup>1-3] 403c BK X CH 9 [1180 i 13] 434d / *Rhetoric* BK I CH 2 [1336 14 18] 595c BK III CH I [1379<sup>a</sup>20]-CH III [1388<sup>b</sup>30] 623b-636a
- 14 PLUTARCH *Pericles* 125b 130d / *Caesar* 578b 579a 598d 599b / *Marcus Brutus* 810d 811a
- 15 TACITUS *Histories* BK IV 269d 270b

- 20 AQUINAS *Summa Theologica* PART I II Q99 A 8 250a 251a
- 23 MACHIAVELLI *Prince* CH VIII 14a-c CH III 33a
- 23 HOBBS *Leviathan* PART I 82b-d PART II 109b 128a b 145a 147b *passim*
- 25 MONTAIGNE *Essays* 176a-c 181d 183a
- 30 BACON *Advancement of Learning* 23a 26a
- 33 PASCAL *Geometrical Demonstration* 440b-442a
- 37 FIELDING *Tom Jones* 320c 331b
- 40 GIBBON *Decline and Fall* 79a b 139b-140c 502c 503a
- 42 KANT *Judgement* 535b-c
- 51 TOLSTOY *War and Peace* BK VI 245a-c

## CROSS REFERENCES

- For The relation of pleasure and pain to sensations and emotions see EMOTION 1a SENSE 3c(2)  
 The discussion of intellectual pleasure with respect to beauty and truth see BEAUTY 4  
 EDUCATION 5c KNOWLEDGE 8b(4)  
 Another discussion of the kinds of pain see PUNISHMENT 1a  
 The aspect of infinity in the desire for pleasure see DESIRE 7a(1)  
 The problem of pleasure and pain in relation to good and evil see GOOD AND EVIL 3d 4a 4c  
 and for the conception of pleasure as an object of desire and as the satisfaction of desire see DESIRE 2b ad  
 The problem of pleasure in relation to happiness see HAPPINESS 2b(2)  
 Other discussions of pleasure and pain in relation to moral virtue see COURAGE 1 3 PUNISHMENT 3a TEMPERANCE 1 2 VIRTUE AND VICE 5a and for the consideration of asceticism and pleasure seeking see TEMPERANCE 6a-6b  
 The conflict between duty and pleasure see DUTY 8 and for the basic issue between an ethics of duty and an ethics of happiness see DUTY HAPPINESS 3  
 Pleasure and pain in relation to friendship and love see LOVE 1b  
 Another discussion of pleasure in relation to law see TEMPERANCE 5c  
 The role of pleasure and pain in moral training see PUNISHMENT 3a VIRTUE AND VICE 4d( )

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups

I Works by authors represented in this collection

II Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*

### I

- DESCARTES *The Passions of the Soul*  
 HUME *An Inquiry Concerning the Principles of Morals*  
 J S MILL *An Examination of Sir William Hamilton's Philosophy* CH 25  
 FREUD *What is His Relation to the Unconscious* CH I 5  
 — *Mourning and Melancholia*

### II

- EPICURUS *Letter to Menoeceus*  
 CICERO *De Finibus et Bonis* (On the Superior Good) I II  
 — *Tusculan Disputations* II  
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 T MORE *Utopia* BK II  
 M LEROUX *De la recherche de la vérité* BK IV CH 5-13

- LEBNITZ *New Essays Concerning Human Understanding* BK II CH 20
- FRANKLIN *Dissertation on Liberty and Necessity Pleasure and Pain*
- HUTCHINSON *An Essay on the Nature and Conduct of the Passions and Affections*
- BETHAM *An Introduction to the Principles of Moral and Legislation* CH 1-5
- LAMB *Hospitality on the Immoderate Indulgences of the Pleasures of the Palate*
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- ALIBERT *Physiologie des passions*
- LEONARD *Essays Dialogues and Thoughts*
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## Chapter 69 POETRY

### INTRODUCTION

THE spirit in which the great poets have read their predecessors differs remarkably from the attitude toward the past which prevails in other fields. The philosophers and scientists frequently feel assured that they can improve upon their predecessors. The poets for the most part wish only to do as well. Virgil's admiration for Homer, Dante's accolade to Virgil, Milton's praise of Aeschylus, Sophocles and Euripides as "the three tragic poets unequalled yet by any," the tributes which Cervantes and Fielding pay to the poets of antiquity—these testify that there is no battle between the modern and the ancient books of poetry.

Contemporary novelists and dramatists—especially those who are proud of their innovations in the forms or materials of poetry—may constitute an exception. But they would still be the exception to a rule which can be verified for almost all the great books of poetry. Part of the reason for such unusual accord may be that in the tradition of the great books one book enjoys the unique distinction of having founded the science of poetry. More than that, it seems to have gained from the poets a large measure of approval and even adherence to its principles during a period of more than 2000 years.

Not that Aristotle's *Poetics* is without sources. They exist in Plato's comments on the kinds of poetry, in Aristophanes' critical weighing of Aeschylus and Euripides, and of course in the original inventions of Homer and the great dramatic poets, both tragic and comic. Not that the acceptance of Aristotle's theory of poetry is unaccompanied by some dissent, as for example in Fielding's quarrel with the rules about the unities of time and place. But Fielding like Cervantes who is another close student of the *Poetics*, more frequently adopts than rejects Aristotle's basic insights. His most rebellious protest—that the originality of creative genius

cannot be bound by the laws of art or held accountable to any established critical standards—would certainly receive sympathetic consideration from the man who formulated the rules of poetry and its measures of excellence by the study of the productions of Greek genius.

One way in which later poets have expressed their disagreement with the *Poetics* confirms Fielding's insight. Those who have violated its rules and yet produced great poems have been men of exceptional genius. Where the genius has been lacking to create new forms, the violation of the rules has usually resulted in formlessness. But it is not only in the creative work of the poets that Aristotle's principles have been put to use and tested. His influence also appears in the comments which the poets make on the nature and purpose of poetry. The terms and distinctions of the *Poetics* are reflected in the writings of Dante, Chaucer, Shakespeare, Milton, Goethe and Melville, as well as in many essays in criticism from Horace and Demetrius to Boccaccio, Boileau, Dryden and Pope.

Socrates once complained of the wisdom of the poets. Those whom he asked about their poetry were tongue-tied. They finally resorted to the mystery of inspiration or the inscrutability of genius. There is hardly a person present, he tells his judges in the *Apology*, who would not have talked better about their poetry than they did themselves. The poets of a later age were through benefit of Aristotle better able to discourse analytically of their art.

IF WE TURN FROM the poets themselves or rather from their poems to the analysis of poetry—by poets or others—we find a number of major issues. On what poetry is and on the end it serves, the tradition does not seem to be either unified or harmonious. Basic disagreements begin with the ancients.

On the question for example whether the poets have the same obligation to speak the truth—and the same kind of truth—as do philosophers or scientists Plato and Aristotle seem to be opposed. On the question whether the art of poetry lies in its use of language or is primarily the craft of fiction Aristotle's *Poetics* and Horace's *Art of Poetry* represent the opposite answers which have been points of departure for divergent discussions of poetry throughout the whole tradition of western thought.

With regard to the second of these two questions it may be wondered whether we are in the presence of the sort of disagreement which requires us to take one side rather than the other. The fact that Aristotle in his *Rhetoric* writes about poetry in a vein contrary to the theory he advances in his *Poetics* would suggest the possibility of different but not inconsistent points of view about poetry. Unless Aristotle unwittingly contradicts himself the rhetorical consideration of poetry is simply a different way of conceiving what is poetic.

In the *Advancement of Learning* Bacon records this difference in the meaning of poetry which had become traditional by his time. He treats it moreover as the sort of difference which does not require the rejection of either alternative as incorrect. Poetry he writes can be taken in two senses in respect of words or matter. In the first sense it is but a character of style and belongeth to the arts of speech and is not pertinent for the present. In the latter it is (as hath been said) one of the principal portions of learning and is nothing else but feigned history which may be styled as well in prose as in verse.

When Bacon says that the conception of poetry as a literary style—as an art of writing in verse rather than prose—is not pertinent for the present he does not reject that alternative entirely. He merely postpones it for the later section of his work in which he treats of grammar and rhetoric. The other alternative—poetry as feigned history—is germane to his present consideration of the kind of learning. Just as Aristotle does not set his *Rhetoric* against his *Poetics* on the nature of poetry so Bacon does not exclude one of these conceptions in favor of the other when he observes

how different are the principles and considerations appropriate to each.

These two points of view about the nature of poetry are not always treated in this way. Sometimes one or the other is taken as the primary or even the only way of approaching the subject and then a genuine issue ensues—either with those who take the excluded point of view or with those who find it possible to embrace both. The Alexandrian and Roman critics seem to create such an issue by considering poetry largely in terms of style. Modern criticism especially since the beginning of the 19th century goes even further in the direction of identifying poetry with verse.

When Wordsworth discusses the art of poetry in his preface to *Lyrical Ballads* he is concerned largely with its language. His definition of poetry as emotion recollected in tranquillity indicates his emphasis upon the lyrical aspect of even narrative poetry. When Edgar Allan Poe writes his *Poetic Principle* and Matthew Arnold his *Essays in Criticism* each is concerned almost exclusively with lyric poetry with that kind of poetry which is written in verse rather than prose. The poet tends to become more and more a composer of verses—so much so that the free-verse movement can appear to be a great revolution in poetry. In the *Brothers Karamazov* Smerdyakov says "Poetry is rubbish." At Mana's protest that she is very fond of poetry he adds "So far as it's poetry it's essentially rubbish. Consider yourself whoever talks in rhyme?"

Just as the word art has come in popular usage to mean only painting and sculpture so its sister word poetry has also narrowed in significance. Contemporary readers who are accustomed to think of poems as lyrics and of poetry as verse may be surprised to learn that according to the significance of its Greek root the word poetry can cover all the forms of art or human productivity they are just as likely to be surprised by the reference to novels and plays written in prose as poems. Yet in the tradition of the great books novelists like Cervantes Fielding and Melville call themselves poets. The great books consider poetry primarily as narrative rather than lyrical as story rather than song.

This does not mean that they include the

other consideration of poetry Fielding for example says in one place that poetry demands numbers or something like numbers (*i.e.* metre) but for the most part he insists that the art of the novelist or romancer lies mainly in the invention of good stories not in the mastery of rules of prosody which apply only to poems of the lyric sort written in verse. Speaking of the sweet influence which melody and rhythm by nature have Plato may observe what a poor appearance the tales of the poets make when stripped of the colors which music puts upon them and recited in simple prose but for Plato as for Aristotle the poet is a teller of tales either in prose or in verse.

Aristotle does not ignore the devices of language. In the third book of the *Rhetoric* where he considers problems of style in all sorts of compositions he distinguishes poetic from prosaic writing and in the *Poetics* also he devotes a few chapters to style. But when in the latter case he deals with the language of poetry he is not concerned with the style of any sort of composition but only of dramatic and epic narratives. Except for a brief mention of the form of verse known as the dithyramb Aristotle does not discuss the isolated lyric as a kind of poetry. He treats song and spectacle merely as embellishments of the drama. In the *Poetics* his emphasis is not upon the devices of language or the sentiments of the poet but upon the construction of plot the development of character the diction and thought of the characters—in short upon the subject matter of the poem rather than upon the feelings of the poet and the eloquence with which he expresses them.

Because he regards plot as the soul of tragedy—and by extension the primary principle of all narrative poetry—Aristotle insists that the poet or maker should be the maker of plots rather than of verses. He is therefore led to criticize the confusion—apparently prevalent in his day as in ours—which he thinks results from identifying the art of poetry with skill in writing verse. Even when a treatise on medicine or natural science is brought out in verse he writes the name of poet is given by custom to the author and yet Homer and Empedocles have nothing in common except the metre so that it would be better to call the one poet the other physicist rather than poet.

Just as Bacon later remarks that a true narrative may be delivered in verse and a feigned one in prose so Aristotle says that the poet and the historian differ not by writing in verse or in prose. The work of Herodotus might be put into verse and it would still be a species of history with metre no less than without it.

That the difference between prose and verse may affect the style of writing but not the essence of storytelling is a point which has wide acceptance among writers who call themselves poets. In the Prologue to *Melibeus* Chaucer's host commands him to leave off rhyming and tell a tale in prose—you might do worse—wherein there's mirth or doctrine good and plain. Thinking of his *History of Don Quixote* as a species of epic poetry Cervantes declares that epics may be as well written in prose as in verse.

The use by Cervantes and Fielding of the word history in the title of their novels indicates the acceptance of the other point in the conception of poetry by reference to its subject matter rather than to its linguistic style. The great poets recognize that as narrative their works resemble histories but they also know that the stories poets tell are in the words of Bacon imaginary history. Just as Fielding writes at length in mock justification of himself as an historian so Melville touches upon the plain facts historical and otherwise of the whale fishery lest someone scout at *Moby Dick* as a monstrous fable or still worse and more detestable a hideous and intolerable allegory. In his chapter on the Leviathan's tail he says: Other poets have warbled the praise of the soft eye of the antelope and the lovely plumage of the bird that never all his less celestial I celebrate a tail.

THE CONCEPTION of poetry as feigned or imaginary history seems to have a direct bearing on the question of the poet's obligation to speak the truth. We shall return subsequently to other aspects of the comparison of poetry with history and philosophy. For the present we are concerned with the issue in the theory of poetry which arises from applying the standards of knowledge to the inventions of the poet.

Bacon like Aristotle denies that such standards are applicable. Though he treats poetry as

a part of learning he holds that it is only restrained in measure of words in all other points it is extremely licensed and doth truly refer to the imagination which being not tied to the laws of matter may at pleasure join that which nature hath severed and sever that which nature hath joined Kant on the other hand like Plato judges poetry in terms of its contribution to knowledge A thing of the imagination poetry he maintains serves the understanding for it conducts a free play of the imagination as if it were a serious business of the understanding

Though the poet promises merely an entertaining play with ideas Kant continues yet for the understanding there ensues as much as if the promotion of its business had been his one intention He achieves a certain combination and harmony of the two faculties of cognition sensibility and understanding which though doubtless indispensable to one another do not readily permit of being united without compulsion and reciprocal abatement In so doing the poet in Kant's opinion accomplishes something worthy of being made a serious business namely the using of play to provide food for the understanding and the giving of life to its concepts by means of the imagination

Yet Kant and Plato do not agree in their judgment of the poet Regarding the poet's promise as a modest one — a mere play with ideas is all he holds out to us — Kant praises him for achieving more in actual performance than he promises Plato on the contrary seems to think the poet promises more and achieves less He seems to regard the poet not as assisting but as competing with the philosopher The reason why the poet must fail in this attempt is that he tries to do on the level of the imagination what the philosopher is better able to do on the level of reason

Both are engaged in a process of imitation — for all knowledge is imitation — but whereas the notions of the philosopher imitate the reality of the Ideas the images of the poet imitate sensible appearances which are themselves imitations of the Ideas or eternal Forms Even when it is accurate or truthful poetry must therefore be an inferior form of knowledge In Plato's terms it is on the level of opinion along with fancy and belief In any case it must sub-

mit to being judged by the same standards of accuracy as anything else which claims to be knowledge or right opinion Imitations he writes are not to be judged of by pleasure and false opinion They are to be judged of by the standard of truth and by no other what ever The competent judge of poetry must therefore possess three things he must know in the first place of what the imitation is secondly he must know that it is true and thirdly that it has been well executed in words and melodies and rhythms

The issue concerning poetry and truth can be most sharply drawn between Plato and Aristotle precisely because Aristotle thinks that poetry is a form of imitation but that knowledge does not have the character of imitation at all Since poetry is not a kind of knowledge the same standards do not apply to both

There is not the same kind of correctness he insists in poetry as in politics — or in medicine or any other special science The poet's art is at fault if he meant to describe the thing correctly but failed through lack of power of expression But if a technical error in physiology enters into his description because he meant to describe the thing in some incorrect way (e.g. to make the horse in movement have both right legs thrown forward) then according to Aristotle his error in that case is not in the essentials of the poetic art The poet's obligation is not to be truthful in such particulars but to make his whole story seem plausible Aristotle summarizes his position in the statement of his famous rule concerning the probable and the possible For the purposes of poetry he says a convincing impossibility is preferable to an unconvincing possibility

Connected with this issue concerning the kind of truth to be expected from the poet is the controversy over the purpose of poetry — to instruct or to delight or to do both This in turn relates to the moral problem of the influence poetry can have on human character or virtue and to the political problem of the regulation of poetry by the state or the right of poetry to be free from such censorship It is not surprising that Plato conceiving poetry as he does should banish poets from the ideal state described in the Republic or that he should lay

down specific regulations for the content of poetry in the *Laws*

At the opposite extreme are those who like Milton and Mill attack the principle of censorship itself—as applied to poetry as well as to other forms of communication. But the traditional defense of poetry in essays bearing that title from the pen of Sidney and Shelley or in the writings of Chaucer, Montaigne and Cervantes usually tries to answer Plato by praising poetry as an instrument of moral instruction as well as of delight. Waiving the question of its effect upon morals, some like Adam Smith answer the sort of criticism Augustine levels against pagan poetry and theatrical presentations by holding the theatre to be a legitimate, a lawful, even a necessary means of recreation.

SOME OF THESE ISSUES touch on considerations dealt with in other chapters. The problem of censorship is discussed in the chapters on ART and LIBERTY, and the theory of imitation as applied to the arts in general, useful as well as fine, is discussed in the chapter on ART. Here we are concerned with the bearing of that theory upon the nature of poetry. The difference we have observed between Plato and Aristotle concerning imitation itself does not seem to affect their use of this notion in treating works of fine art, and more particularly poetry. What Hamlet tells the players is the purpose of their play—to hold as 'twere the mirror up to nature. —Aristotle says is the aim of such arts as poetry, sculpture, painting, music, and the dance, which give both instruction and delight through imitation.

Within the sphere of the fine arts, the distinction of poetry from the others is usually made in terms of the medium of imitation. Poetry, according to Aristotle, imitates through the medium of language; painting and sculpture through lines, planes, colors, and shapes; music through rhythm and harmony. Whence Aristotle's statement that the objects of imitation are men in action applies to poetry alone or to all the fine arts is a question of interpretation to which opposite answers have been given. Some commentators seem to think that human action as the object of imitation specifically defines poetry, whereas music and sculpture have distinct objects as well as dis-

tinct mediums of imitation. Others hold that human action is the object of imitation common to all the arts.

However this issue is resolved, the differentiation of the kinds of poetry can be made neither in terms of the object nor the medium of imitation, but only in terms of the manner.

The medium being the same and the object the same, Aristotle writes, the poet may imitate by narration—in which case he can either take another personality as Homer does or speak in his own person, unchanged—or he may present all his characters as living and moving before us.

Plato makes the same distinction, pointing out that the Homeric type of poetry combines both the discourse of the poet and the discourse of his characters in dialogue. He calls stage plays pure imitations in the sense that the author never speaks directly, but tells his story entirely through the actions and speeches of the characters, whereas the type of poetry which he calls narrative as opposed to imitation may combine both methods of storytelling or may in some extreme instances never resort to dialogue at all.

Since all storytelling is narration, and since all poetry is imitation, it seems slightly confusing to call the two major types of poetry narration and imitation, as Plato sometimes does, or narrative and dramatic, as Aristotle sometimes does. Bacon also speaks of narrative and dramatic or representative poetry. He defines narrative poetry as such an exact imitation of history as to deceive, did it not often carry things beyond probability; and dramatic poetry as a kind of visible history, giving the images of things as if they were present, whilst history represents them a past.

The difficulties of language seem to be removed by other terms which both Plato and Aristotle use to express the main distinction. The manner of storytelling, exemplified by Homer, which either employs direct narration without dialogue or combines both, is *epic* poetry. That which uses dialogue alone is *dramatic*.

These words—*epic* and *dramatic*—may have their difficulties too, especially for the contemporary reader, unless a number of things are remembered. First, *epics* and *dramas* may

be written either in prose or verse. Second the arts of theatrical representation are auxiliary to the art of the dramatic poet. The writing of a play is completely independent of its acting—the production of spectacular effects depends more on the art of the stage machinist than on that of the poet. Third epic poetry differs from dramatic poetry in other respects than the use of indirect discourse as well as dialogue.

On this last point Aristotle observes that all the elements of epic poetry are found in drama whereas the dramatic form may include the embellishments of song and spectacle in addition to plot, character, thought, and diction. Even more important is his distinction of the two in terms of the unities of time, place, and action. Because it need not be limited at all in time and place, epic narration may have a much more complicated plot structure or even as Aristotle says, a multiplicity of plots.

With this understanding of the distinction between the two major types of storytelling we can see why the great novels of Cervantes, Melville, Tolstoy, and Dostoevsky should be classified as epic poems and were apparently so conceived by their authors at least in the cases of Cervantes and Melville. As measured by the magnitude of its plot—its reach in time and its scene the whole universe from Heaven through the world to Hell—Goethe's *Faust* even though dramatic in manner seems to be no less epic in its structure and proportions than the poems of Homer, Virgil, Dante, and Milton. The story of a single white whale can be epic in its immensity if the storyteller like Melville makes it include the whole circle of the sciences and all the generations of whales and men and mastodons past, present, and to come, with all the revolving panoramas of empire on earth and throughout the whole universe, not excluding its suburbs.

ANOTHER TRADITIONAL division in the kinds of poetry is that between the tragic and the comic. This distinction is variously expressed. Fielding sees the difference in terms of the misery or happiness to which the poet brings his principal characters in the end. Speaking of tragedy alone, Milton says that it has ever been held the gravest, moralest, and most profitable of

all other poems. In similar vein Marcus Aurelius praises tragedy for reminding men of the things which happen to them and that it is according to nature for things to happen so. He does not admit comedy to be of equal worth though he does look with some favor upon the older forms of comedy which were useful in reminding men to beware of insolence.

According to Aristotle, comedy represents men as worse, tragedy as better than in actual life. He describes the action which tragic poetry imitates as serious, adding that tragedies through pity and fear effect the proper purification of these emotions. Whether comedies also arouse and purge certain emotions Aristotle does not say for his promise to speak more fully of comic poetry is not fulfilled in the *Poetics*. Concerning the meaning of the tragic catharsis there are questions enough.

Augustine asks: How is it that a man wants to be made sad by the sight of tragic sufferings that he could not bear in his own person? The more a man feels such sufferings in himself the more he is moved by the sight of them on the stage. Now when a man suffers himself it is called misery; when he suffers in the suffering of another it is called pity. But how can the unreal sufferings of the stage possibly move pity?

Boswell begs Dr. Johnson to explain Aristotle's doctrine of the purging of the passions as the purpose of tragedy. Why, Sir, Johnson replies, you are to consider what is the meaning of purging in the original sense. It is to expel impurities from the body. The mind is subject to the same imperfections. The passions are the great movers of human actions but they are mixed with such impurities that it is necessary they should be purged or refined by means of terror and pity. For instance, ambition is a noble passion but by seeing upon the stage that a man who is so excessively ambitious as to raise himself by injustice is punished we are terrified by the fatal consequences of such a passion. In the same manner a certain degree of resentment is necessary but if we see that a man carries it too far we pity the object of it and are taught to moderate the passion. Johnson's interpretation seems to be more specific than Milton's notion that to purge the passions by tragedy is to temper and reduce



them to just measure with a kind of delight stirred up by reading or seeing those passions well imitated

It may be arguable whether the difference between tragedy and comedy is well defined by reference to the nobility or vulgarity of the leading characters by the contrast between the pride of the tragic and the wit of the comic hero by the seriousness or lightness of the tragic and comic themes and by the passions appropriate to each. In any case it seems clear that this division of poetry crosses the other division into epic and dramatic writing. The plays of Sophocles and the *Iliad* of Homer Aristotle observes are tragic poetry yet dramatic and epic respectively in manner but from another point of view. Sophocles is to be compared with Aristophanes for though the one writes tragedies and the other comedies both are dramatists. In the tradition of the great books there are comic as well as tragic epics—Chaucer's *Troilus and Cressida*, Rabelais' *Gargantua and Pantagruel*, Cervantes' *Don Quixote*, Sterne's *Tristram Shandy*, and Fielding's *Tom Jones*—just as there are tragic and comic plays. The examination of these suggests that talk rather than action is the essence of comedy.

The chief thing which Aristodemus remembers of Socrates discourse the morning after the banquet in Plato's *Symposium* is Socrates' success in compelling Aristophanes and Agathon to acknowledge that the genius of comedy was the same as that of tragedy and that the true artist in tragedy was an artist in comedy also. To this they were constrained to assent being drowsy and not quite following the argument. Precisely what they assented to has never been entirely clear. On one interpretation of Socrates' remark examples of his point are difficult to find in the great books—except perhaps for the plays of Shakespeare which in the sphere of dramatic poetry seem to represent an equal genius for tragic and comic writing. In the sphere of epic poetry we have only Aristotle's reference to a lost poem of Homer's—the *Margites*—which he says bears the same relation to comedy that the *Iliad* and *Odyssey* do to tragedy.

According to another interpretation the insight of Socrates is that the totality of the great tragic vision tends to approximate the totality

of the great comic vision. The same poem may be both tragic and comic because the poet has been able to see far enough into the nature of things to reveal a world which is at once dreadful and ridiculous. In this sense *Moby-Dick* may be both a tragedy and a comedy. Though in many of its aspects Melville writes this visible world seems formed in love, the invisible spheres were formed in fright but he also remarks that there are certain queer times and occasions when a man takes this whole universe for a vast practical joke.

IN THE SCIENCE of poetics certain principles or rules seem to apply to all the major forms of poetry where others relate specifically to epic or dramatic writing or to tragedy or comedy. Aristotle implies that his most general formulations hold not only for long poems but for dithyrambic poetry as well. If that is so they should be capable of extension to other forms of lyric poetry such as for example the sonnets of Shakespeare and Milton and Milton's odes and elegies. Yet the two principal elements in Aristotle's analysis of poetry—plot and character—seem superficially at least to belong peculiarly to narrative poems long or short. Whether they are present in any comparable manner in the structure of a lyric or whether the form and content of lyric poetry requires an analysis peculiar to itself are among the most difficult questions in the theory of poetry.

In the tradition of the great books there seems to be as already observed general agreement about the basic rules for writing narrative poetry. Since these rules aim to direct the artist toward the achievement of excellence they are also the basic principles of criticism. The science of poetics is at once an organon of production and a canon of criticism.

The simple rules such as those of plot construction afford an example. A well constructed plot must have a beginning, middle, and end. It must observe certain unities (at least of action, if not of time and place). Certain effects it is held can best be produced by the use of recognition scenes and reversals of fortune. Whether the events narrated are possible or impossible the poet must at least invest them with plausibility or verisimilitude. Such rules, formulated by Aristotle and discussed by Cer-

vantes Fielding and others provide standards for judging whether a poem is skillfully made as well as give directions for the attainment of skill by the poet

It may be held of course that the great poet works by inspiration by a divine madness rather than by rule that as Theseus says in *A Midsummer Night's Dream* the lunatic the lover and the poet are of imagination all compact The poet's eye in a fine frenzy rolling doth glance from heaven to earth from earth to heaven and as imagination bodies forth the forms of things unknown the poet's pen turns them to shapes and gives to airy nothing a local habitation and a name But if there is an art of poetry then like any other art it is a thing of rules whether or not genius needs their guidance or can be regulated by them

The pivotal question here is Which takes precedence the creative or the critical faculty? Does Aristotle's rule concerning the primacy of plot derive from the greatest poems of antiquity in which he found this principle observed? Does it set up an infallible measure of excellence in narration or on the other hand do certain modern novels have an impeccable greatness despite their violation of this rule by the emphasis they place on the development of character rather than on the action in which the characters are involved? The rule of probability and necessity may on the other hand be inviolable Not even the most original genius may be able to tell a good story without giving it poetic truth according to the necessities of the characters he has created and the probabilities of the situations in which he places them

ON THE SIDE of language poetic theory seems to draw much from the art of rhetoric The relation of rhetoric to poetics the nature of rhetorical devices such as metaphor and simile the choice among existing words or the invention of new ones are matters dealt with in the chapter on RHETORIC as well as here Aristotle's treatment of these problems both in his *Rhetoric* and his *Poetics* lays the foundation for the traditional association of these two disciplines In both for example he discusses the various modes of metaphor and the utility in achieving an expansion of meaning combined with a contraction of speech

This in turn relates to his general maxim of style which directs the writer to be clear without being ordinary The clearest style he says is that which uses only current or proper words but in order to avoid being common place or ordinary it must be admixed with lofty diction—raised above the common place by the employment of unusual words

Nothing contributes more to produce a clearness of diction that is remote from commonness than the lengthening contraction and alteration of words Phrases which are not part of current idiom give distinction to style

But the greatest thing by far is to have a command of metaphor This alone cannot be imparted by another it is the mark of genius for to make good metaphors implies an eye for resemblances

One part of Aristotle's theory of style seems to be amplified by Pascal's observation that a certain perfection is achieved by the use of those words which if altered would spoil the discourse In these terms prosaic as opposed to poetic writing does not result from the lack of a fixed metre but rather from commonplaceness or lack of distinction in language This standard of style does not apply to poetry alone for just as history and philosophy may be written in prose or verse so also may they be written poetically or prosaically

Dr Johnson's point that poetry cannot be translated that the beauties of poetry cannot be preserved in any language except that in which it was originally written may be capable of the widest generalization It may be extended to mean that writing which is poetic cannot be translated into any other form of words even in the same language A poetic sentence in English is untranslatable in this absolute sense when no alternative English phrasing is truly its equivalent For example it seems impossible to restate without loss or ruin Shakespeare's *Life is a tale told by an idiot full of sound and fury signifying nothing* or Hobbes' *Life in a state of nature is solitary poor nasty brutish and short*

The other part of Aristotle's theory of style that concerning metaphors seems to be converted by William James into a general distinction between poetic and philosophic thought or what he calls the splendid and the analytic

types of intellect. Poetic thought tends to develop the implications of an analogy without giving an explication of its grounds. This in James' view explains the abrupt transitions in Shakespeare's thought which astonish the reader by their unexpectedness no less than delight him by their fitness. Quoting a passage from Homer unfathomably rich in metaphor he says that a man in whom all the accidents of an analogy rise up as vividly as this may be excused for not attending to the ground of the analogy. The two types of intellect are rarely found in conjunction—Plato according to James being one of the few exceptions whose strangeness proves the rule.

ON THE LEVEL of thought and knowledge as opposed to that of language poetry is traditionally contrasted to philosophy and history. As indicated in the chapter on HISTORY historians like Herodotus, Thucydides and Plutarch emphasize the difference rather than the similarity: the historian is a reporter of fact, the poet a creator of fables or fictions. The one gains credence by his display of evidence and reasons, the other by the intrinsic plausibility of his tale.

In a good poem, writes Hobbes, whether it be epic or dramatic, both judgment and fancy are required, but the fancy must be more eminent. In a good history the judgment must be eminent, because the goodness consists in the method, in the truth. Fancy has no place but only in adorning the style.

Bacon associates poetry most intimately with history, both being concerned with individuals circumscribed by time and place and differing only as one employs the imagination, the other the memory. Aristotle, on the other hand, finds poetry and philosophy more alike, at least to the extent that poetry, unlike history, tends to express the universal, by which he means how a person of a certain type will on occasion speak or act according to the law of probability or necessity. Even if the poet chances to take an historical subject, he is none the less a poet, for there is no reason why some events that have actually happened should not conform to the law of the probable and possible, and in virtue of that quality in them he is their poet or maker. In this sense

the historian also may turn poet. Referring to the speeches in his history, Thucydides tells us that it was his habit to make the speakers say what was in my opinion demanded of them by the various occasions, of course adhering as closely as possible to the general sense of what they really said.

Some of the great poems, notably the *Divine Comedy*, *Paradise Lost* and *Faust*, are frequently called philosophical for what appear to be other reasons, either because the discourse of their characters is weighted with doctrine, or because the poet himself is expressing a doctrine, not in particular speeches nor by argument, but in the symbolism of the poem as a whole. By these criteria, Lucretius' *On the Nature of Things* is a philosophical work, but not a philosophical poem. It is argumentative throughout, not narrative at all; it aims to be a literal rather than an allegorical statement of the truth. Bacon's definition of allegorical poetry—as that which represents intellectual things to the senses—seems to characterize both the poetic aspect of philosophy and a distinctively philosophical type of poetry.

Yet Aristotle's point, that poetry and philosophy are alike, may remain valid. All poetry, certainly all the great narrative poems, the great epics and dramas, novels and plays, deal with the abiding problems of human action and the perennial themes of human thought. It is not this moral or metaphysical content, however, which makes poetry more philosophical than history. It is the poet's treatment of such matters. In the persons and events of his story he succeeds in giving the universal a concrete embodiment. Precisely because these are only imaginary, not real particulars, they permit the abstract universal to be readily discerned.

Poets like Chaucer and Cervantes who must that their function is to instruct as well as to delight, do not assume the role of pedagogues or preachers. They teach, not dogmatically, but as experience does, by affording the mind the materials or occasions for insight and inference. As an artistic imitation, poetry may be better than the experience it represents. It may improve upon experience as a teacher, because born of the poet's mind, it is already impregnated with ideas.

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**PAGE SECTIONS** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 51 JAMES *Psychology* 116*a* 119*b* the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163*b* 164*c* the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS** One or more of the main divisions of a work (such as PART BK CH S CT) are sometimes included in the reference. Line numbers in brackets are given in certain cases e.g. 11*a*d BK I [265 283] 12*d*.

**BIBLE REFERENCES** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) 11 *Ezra* 7 46.

**SYMBOLS** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference. *passim* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

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415b-c BK X 427c-434c / *Lysis* BK IV 684b c
- 9 ARISTOTEL *Poetics* CH 9 [1451 36-32] 686a c  
CH 23 695a c CH 25 696d 698c
- 14 PLUTARCH *Thucydides* 1a b / *Solon* 16a /  
*Pericles* 140d
- 17 PLOTINUS *First Ennead* TR III CH I-3 10 11a
- 18 AUGUSTINE *City of God* K II CH 14 156c  
157 BK IV CH 26-27 202a 203 BK VII CH  
13 273b-d
- 19 AQUINAS *Summa Theologiae* PART I Q1 A9  
REP I 8d 9c
- 20 AQUINAS *Summa Theologiae* PART I II Q  
O A2 REP 2 267a 268a
- 23 HOBBS *Leviathan* PART I 67b c
- 25 MONTAIGNE *Essays* 62b c 194c 201b passim  
258d 59a
- 26 SHAKESPEARE *Midsummer Night's Dream*  
ACT V C I [ 2 221] 373a b / *Henry IV*  
CT II SC I [ 0-135] 451b
- 28 HERVEY *On Animal Generation* 473b
- 29 CERVANTES *Don Quixote* PART I XIIA XVII  
PART II 212a 215b esp 213b c 251a 252b
- 30 BACON *Advancement of Learning* 32d 38d  
39b 55d
- 32 MILTON *Samson Agonistes* 337a 338a /  
*A paget* 385a
- 33 PASCAL *Pensees* II 173b-174a 34-35 177a  
38 39 177b
- 35 HUME *Human Understanding* SECT I DIV 5  
452d-453a
- 37 FLDING *Tom Jones* 19a 20 49b 50c
- 38 ROUSSEAU *Social Contract* BK 390
- 40 GIBBON *Decline and Fall* 82a d 186c d  
345b-346b 398b 471 d 545c 627b d
- 44 BOSWELL *Johnson* 120c 307c
- 46 HEGEL *Philosophy of History* INTRO 153a b  
PART I 229b 230a PART II 259b
- 47 GOETHE *Faust* PART II [7426-7433] 181b-  
182 [ 10 89-191] 248b
- 51 TOLSTOY *War and Peace* BK X 431
- 52 DOSTOEVSKY *Brothers Karamazov* BK V  
115a-c BK X 312d 313b
- 53 JAMES *Psychology* 686b 689a



## 6 Poetry and emotion

## 6a The expression of emotion in poetry

- OLD TESTAMENT *Exodus* 15 i 21 / *II Samu* 1  
1 17-7—(D) *II Ki* 5 i 17 27 / *Psalms* pas  
sim / *Lament* ions
- APOCRYPHA *Judith* 16—(D) OT *Judith* 16 /  
*Song of Three Children* 28-68—(D) OT  
*Da el* 3 51-90
- NEW TESTAM NT *Luk* 1 42-55 67 79  
7 *PLA O Ion* 146d 147a / *Republic* κ III  
325b 326b BK V 432a-434c / *Philebus*  
628d 630c / *Laus* BK II 654b d
- 9 ARISTOTLE *Politics* κ V II CH 5 544 546a  
CH 7 [1341<sup>b</sup>33 1342<sup>b</sup>18] 547 548a c / *Rhet*  
oric BK I CH II [1371<sup>b</sup>4 11] 615a BK I I  
CH 7 659a 660a CH 16 [417 37-37] 671c d /  
*Poetics* CH 15 [1454<sup>b</sup>7 14] 689c CH 17 [1455  
29-39] 690c
- 13 VIRG L *Aeneid* BK I [440-493] 115a 116b
- 21 DANT *Divine Comedy* HELL, XXXIV [1 16]  
51b c PURGATORY XXIV [49-63] 90a b
- 25 MONTAIGNE *Essays* 104d 105b 399d 401a  
410a c
- 27 SHAKESPEARE *Sonnets* LXXVI 597d 598  
LXXV II LXXIX 598b LXXVII LXXIX 598d  
599b
- 28 CERVANTES *Don Quixote* PART I 184a  
185b
- 30 MILTON *Advancement of Learning* 38c 39d  
78a d
- 32 MILTON *L Allego* 17b-21a / *II Penseroso*  
21a 25a
- 33 PASCAL *Pensées* II 173b 174a
- 44 BOSWELL *Johnson* 53c d
- 46 HEGEL *Philosophy of History* INTRO 153a c  
PART IV 323b c
- 49 D RWIN *Descent of Man* 570c 571a
- 54 FREUD *Interpretation of the Dream* 246d 248c /  
*General Introduction* 483b 600d 601b /  
*Group Psychology* 692c 693a p ssum / *Civilization and Its Discontents* 773d 774c
- 6b The emotional and purgation of the emotions  
by poetry the catharsis of pity and fear
- 4 HOMER *Odyssey* BK I [325-359] 186b c BK  
VII [71 1 3] 272d 223a [48-547] 227a d  
BK XI [1 3] 255a
- 6 HERODOTUS *History* BK V 189
- 7 PLATO *Ion* 145a II / *Republic* BK III 325b  
326b BK X 431b-434c / *Philebus* 628d 630c
- 9 ARISTOTLE *Politics* BK VI CH 5 544c 546  
CH 7 [1341<sup>b</sup>33 1342<sup>b</sup>18] 547c 548a c / *Rhetoric*  
BK II CH II [1371<sup>b</sup>4 11] 615a BK III I 7  
659a 660 / *Poetics* CH 6 [1449<sup>b</sup>23-28] 684a  
CH 9 [1452 1 10] 686c d CH II [1452 47 14]  
687a c I 13 14 687c 689 CH 16 [1455 17]  
690b CH 17 [1455<sup>b</sup>29-39] 690c c I 18 [1456  
19 23] 691 d CH 19 [1456 33 38] 691d 692  
CH 25 [1460<sup>b</sup>4 26] 697a
- 12 LUCRETIVS *Nature of Things* BK V [1379-  
1414] 79 c

- 14 PLUTARCH *Lycurgus* 33d 34a
- 18 AUGUSTINE *Confessions* BK I par 20-2  
6a c par 25 27 7a d BK III par 2 4 13c 14b  
BK V par 49-50 83c 84b
- 21 D NTE *Di me Comedy* HELL V [73 142] 7d  
8b PURGATORY II [76-133] 35b d
- 23 HOBBS *Leviathan* PART I 69c
- 5 MONTAIGNE *Essays* 104d 105c 410a c  
507b c
- 26 SHAKESPEARE *Two Gentlemen of Verona*  
ACT III SC II [66-95] 245a b
- 27 SHAKESPEARE *Hamlet* ACT II SC II [513  
633] 40b d / *Cymbeline* ACT II SC III [1 35]  
459b c
- 29 CERVANTES *Don Quixote* PART I XLIX
- 30 BACON *Advancement of Learning* 38c 39d  
78 d 87c d
- 32 MILTON *Samson Agonistes* 337a 338a /  
*Areopagitica* 385a b
- 33 PASCAL *Pensées* II 173b 174a 135 196a
- 40 GIBSON *Decline and Fall* 94a b
- 42 KANT *Judgement* 509b d
- 44 BOSWELL *Johnson* 308b c
- 49 D RWIN *Descent of Man* 570b 571b
- 51 TOLSTOY *War and Peace* BK XV 638c 639c
- 53 JAMES *Psychology* 288a 747b 748a
- 54 FREUD *Interpretation of the Dream* 239c 240a  
246c 247d / *General Introduction* 481d 582b  
/ *Beyond the Pleasure Principle* 643c / *Group Psychology* 692c 693a / *War and Death*  
762c
- 7 The elements of poetic narrative
- 5 ARISTOTLES *Poetics* [734-8 8] 534c 535c /  
*Ethics* [758 1533] 573a 582a c
- 7 PLATO *Republic* κ III 331c
- 9 ARISTOTLE *Poetics* 681a 699 c esp CH 6  
684a 685a CH 12 687b c
- 32 MILTON *Samson Agonistes* 337a 338a
- 36 STERNE *Tristram Shandy* 335b 336a

## 7a Plot its primacy its construction

- 7 PLATO *Phaedo* 221d 222a
- 9 ARISTOTLE *Poetics* CH 6 [1450 3 15] 684b d  
c I 7 685b 687b CH 13 14 687 689 CH  
15 [1454 39-38] 689 CH 16-18 689d 691d  
CH 23 24 69a 696d CH 26 [1462<sup>b</sup>4 11]  
699a c
- 32 MILTON *Samson Agonistes* 338
- 36 STERNE *Tristram Shandy* 228b 231a
- 37 FIELDING *Tom Jones* 2d 3 204b d 205c

## 7b The role of character its relation to plot

- 9 ARISTOTLE *Poetics* CH 2 681d 682a CH 6  
[1449<sup>b</sup>36-1450<sup>b</sup>10] 684b 685a c I 13 [14  
30-453 30] 687c 688a CH 15 689a d
- 12 ECTIVS *Disquisitiones* BK I CH 4 129c d  
c I 28 133b 134d
- 17 PLOTINUS *Treatise on the Emotions* II 1, 91c 92c
- 37 FIELDING *Tom Jones* 49a 50 152a 155b  
204b d 205c
- 44 BOYLE *Journal* 157d 158b

- 48 MELVILLE *Moby Dick* 54b 55a  
54 FREUD *Interpretation of Dreams* 247d 248b

## 7c Thought and diction: elements of poetry

- 7 PLATO *Protagoras* 52d 57a  
8 ARISTOTLE *Interpretation* CH 4 [17 5-7] 26b  
9 ARISTOTLE *Poetics* CH I [147 14<sup>b</sup>] 681a  
d CH III 684a 685a CH 19-21 691d 695a CH 24  
[459<sup>b</sup> 12 17] 695c CH 5 [1461 9<sup>b</sup>] 697c  
698a [1461<sup>b</sup> 15 8] 698b  
10 AQUINAS *Summa Theologiae* PART I Q I A 9  
R 1 8d 9c  
22 CHAUCER *Troilus and Criseida* BK II STAN A  
2 4 21b-22a STAN A 37 38 26b STAN A 147-  
149 40b 41a / *Prologue* [725-746] 171b 172a /  
Miller's *Poetique* [3167-3186] 212a b / *Pro-  
logue to Melibeus* 400b 401a  
27 SHAKESPEARE *Hamlet* ACT II CH [454 471]  
45a  
29 CERVANTES *Don Quixote* PART XIII  
30 BACON *Advancement of Learning* 63b-c  
31 DESCARTES *Discourse* PART I 43b  
32 MILTON *Vacation Exercise* [1-58] 39 60b /  
*Paradise Lost* BK I [12-16] 93b  
36 SWIFT *Gulliver* PART IV 169 B  
42 KANT *Judgement* 324b  
48 MELVILLE *Moby Dick* 335b  
53 JAMES *Psychology* 687b 688a  
54 FREUD *General Introduction* 458a-459a

## 7d Spectacle and song in drama

- 7 PLATO *Republic* BK III 331c 333a  
9 ARISTOTLE *Poetics* CH I [447 4<sup>b</sup> 30] 681a d  
CH 4 [448<sup>b</sup> 24 1449<sup>a</sup> 27] 682d 683b CH 6 684a  
685a esp [1449<sup>b</sup> 20 1450 14] 684a c [450<sup>b</sup> 17-  
20] 685 CH 12 687b-c CH 14 [453<sup>b</sup> 1]  
688b CH III [1456 1-3] 691b- [1456 5 3]  
691d CH 6 [146 13 7] 698d  
32 MILTON *Samson Agonistes* 338a  
46 HAZEL *Philosophy of History* PART 263d  
265c

## 8 The science of poetic rules of art and principles of criticism

- 5 ARISTOPHANES *Frog* [758 1533] 573a 582a B  
7 PLATO *Ion* 142 148 c / *Lysis* BK I 654a  
662a  
9 ARISTOTLE *Poetics* K II CH I [128<sup>b</sup> 10]  
479b / *Poetics* 681a 699  
36 STERN *Tristram Shandy* 287b 289b 335b-  
336a 344b 345a  
37 FIELDING *Tom Jones* 1 2a 19a 20a 35a  
d 49b 50 73a 75a 121b d 123a 152a  
155b 189a 191 204b d 205 223 225a  
246a 247a 273a 274c 296b d 298 338a d  
357a d  
40 GILSON *Declaratio de Fall* 494d-495a c  
41 GILSON *Declaratio de Fall* II 300b 526b-d pas-  
sive 573a  
42 KANT *Pure Reason* 23d [fn 1] / *Judgement*  
513d 514b 524 527b  
46 HAZEL *Philosophy of History* INTRO 185c d

## 8a Critical standards and artistic rules with respect to narrative structure

- 5 ARISTOPHANES *Poetics* [734-818] 534c 535c  
9 ARISTOTLE *Poetics* CH 7 11 685b 687b CH  
13 14 687c 689a CH 16-18 689d 691d  
33 PASCAL *Pensées* 32 33 176 b  
35 HUBER *Human Understanding* SECT VIII DIV  
70 481d 482a  
36 STERN *Tristram Shandy* 193a 194b 195a B  
209a 210b 228b 231a 335b-336a 344b 345a  
37 FIELDING *Tom Jones* 189a 191c 204b d  
205c 223a 225a  
41 GIBSON *Decline and Fall* 300b  
44 BOWELL *Johnson* 513a b

## 8a(1) The poetic unit: comparison of epic and dramatic unity

- 7 PLATO *Phaedrus* 133 d  
9 ARISTOTLE *Poetics* CH 7-9 685b 686d CH 17  
[1455 38<sup>b</sup> 23] 690d 691a CH 18 [456 0-  
2] 691 CH 23 695a B CH 26 [1462<sup>b</sup> 15]  
699a c  
27 SHAKESPEARE *Winter's Tale* ACT IV SC I  
505 d  
29 CERVANTES *Don Quixote* PART I 186b c  
32 MILTON *Samson Agonistes* 338a  
36 STERN *Tristram Shandy* 245b 246a  
37 FIELDING *Tom Jones* 19a 20a 73b 75a

## 8a(2) Poetic truth versus multitude or plausibility: the possible and the necessary

- 6 HERODOTUS *History* K II 72a b  
6 THUCYDIDES *Peloponnesian War* K I 354b  
7 PLATO *Phaedrus* 140c d / *Ion* 142a 148a c /  
*Republic* BK I 320d 324 x x 427c 434c  
/ *Sophist* 561b d  
9 ARISTOTLE *Poetics* CH 9 [145 36]- K II  
[1452 30] 686a 687a CH 15 [1454<sup>a</sup> 23-<sup>b</sup> 9]  
689b c CH 24 [460 2<sup>b</sup>] 696b c CH 25  
696d 698  
14 PUTHURCH *Comedies* 189b c  
21 DANTE *Comedy* K II XVI [1 4 136]  
23d XXV [46-15] 36d 38a XXVIII [112 42]  
42 43a XXXI [12 47] PUATORY XXXI  
[ 4 145] 102a b P AD I [38-8] 106c  
107a x [ 8 48] 120 d XXX [9-36] 152a  
XXX [46 75] 156d 157  
22 CHAUCER *Tristram Shandy* K II STANZA  
49 41a / *Prologue to Melibeus* 400b-401a  
23 HO *Leviathan* PART I 67b  
25 MONTAIGNE *Essays* 41b-c  
27 SHAKESPEARE *Hamlet* ACT III C I [-50]  
49 B  
29 CERVANTES *Don Quixote* PART I 184c 186d  
189d 191d PART I 208d 209d 215a b  
386a 388a  
30 BACON *Advancement of Learning* 38 39b  
31 DICKENS *David Copperfield* ART I 43 b  
37 FIELDING *Tom Jones* 49b 50 152a 155b  
379b

(8a Critical standards and artistic rules with respect to narrative structure 8a(2) Poetic truth versus likelihood of plausibility the possible the probable and the necessary)

- 40 GIBBON *Decline and Fall* 345c 471c d 494d-495a  
 41 GIBBON *Decline and Fall* 693d [n 83]  
 44 BOSWELL *Johnson* 282c d 446c 447a  
 46 HEGEL *Philosophy of Right* ADDITIONS 12 118a c / *Philosophy of History* INTRO 153a-c  
 47 GOETHE *Faust* PART II [7426-7433] 181b 182a  
 48 MELVILLE *Moby Dick* 151b 152a  
 51 TOLSTOY *War and Peace* BK III 134a c

8a(3) The significance of recognitions and reversals in the development of plot

- 9 ARISTOTLE *Poetics* CH 6 [1450<sup>a</sup> 33 35] 684d CH 10 18 686d 687b c 14 [1453<sup>a</sup> 22 1454 8] 688c 689 CH 16 689d 690b  
 22 CHAUCER *Monk's Prologue* [13 979-988] 433b  
 37 FIELDING *Tom Jones* 379b c  
 54 FREUD *Interpretation of Dreams* 246b-c / *General Introduction* 581d

8b Critical standards and artistic rules with respect to the language of poetry: the distinction between prose and verse: the measure of excellence in style

- 5 ARISTOPHANES *Knights* [1373 1383] 486d 487a / *Clouds* [331 340] 492a [1351 379] 504d 505b / *Poetics* [734-818] 534c 535c / *Birds* [1372 1409] 559b-c / *Frogs* [758 1533] 573a 582a c / *Thesmophoriazousae* [95 175] 601c-602b  
 7 PLATO *Protagoras* 52d 57a / *Republic* BK III 328b 333b BK X 430c  
 9 ARISTOTLE *Ethics* BK IV CH 8 [1128 18 33] 375b c / *Poetics* K VII CH 7 [342 32<sup>b</sup> 8] 548a c / *Rhetoric* BK III CH 1-12 65a b d 667b passim / *Poetics* CH 1 [1447<sup>a</sup> 14<sup>b</sup> 23] 681 c c 16 [1450<sup>b</sup> 13 15] 685a CH 19 [1456<sup>b</sup> 8 19] 692a b CH 2 694a 695a CH 24 [1460 32 4] 696c d CH 25 [1461 9-218] 697c 698b  
 18 AUGUSTINE *City of God* BK III PAR 14 16d 17a BK XI PAR 35-37 97c 98b / *City of God* BK XI CH 18 331d 332a / *Christian Doctrine* BK II CH 6 638a d BK IV CH 17 26 686c 696a passim  
 21 DANTÉ *Divine Comedy* HELL, XXVIII [1 42] 41b c XXXI [1 12] 47c PURGATORY XXIV [49-63] 90a b XXVI [88-148] 93d 94c XXXI [133 145] 102b c PARS DISSE [1-37] 106a b x [28 49] 120c d XXX [9-36] 152a XXXIII 156b 157d  
 22 CALLEGE *Troilus and Cressida* BK II STANZA 1 4 21b-22a STANZA 37 38 26b STANZA 147-149 40b-41a BK V STANZA 256-257 153b 154a / *Prologue* [725 746] 171b 172 / *Miles à Prologue* c [3167 3186] 212 W / *Clerk's Prologue* [838-7932] 295a 296a / *Squire's Tale* [715 722] 345b / *Franke's Prologue* 351a

/ *Prologue to Melchior* 400b-401a / *Mauprat's Tale* [17 154 186] 491a b / *Parson's Prologue* [17 341 375] 494a b

- 23 HOBBS *Leviathan* PART I 67b  
 25 MONTAIGNE *Essays* 62b-c 76b-c 104d 105c 195d 197a 309a 310c 422c-423c 453d 454a 455a d 482b-483b  
 26 SHAKESPEARE *1st Henry IV* ACT III SC 1 [121-135] 451b c  
 27 SHAKESPEARE *Hamlet* ACT II SC II [15 121] 41c d [454-466] 45a / *Sonnets* XXI 589b-590 LXXVI 597d 598a LXXXII 598d CXXX 606a b  
 29 CERVANTES *Don Quixote* PART I XLIII 1b-c 13b 16c 185a b PART II 251a 252a  
 30 BACON *Advancement of Learning* 38c 63b-c  
 31 DESCARTES *Discourse* PART I 43b  
 32 MILTON *Vocation Exercise* 59a 61b / *Sonnets* XIII 65b 66a  
 33 PASCAL *Pensées* 14 16 174a b 21 31 175b-177a 48 178b  
 36 STERN *Tristram Shandy* 287b 289b  
 37 FIELDING *Tom Jones* 1a 2a 49a 50 189c d 223a 225a 246a 247a  
 40 GIBBON *Decline and Fall* 494d-495a c  
 41 GIBBON *Decline and Fall* 300b 327a-c 573a  
 42 KANT *Judgement* 513d 514b 524b  
 44 BOVELL *Johnson* 59d 61d 167d 170d passim 180c 202b 284b 307c 381d 382c 454 b 455b  
 47 GOETHE *Faust* PRELUDE [146 149] 4b  
 52 DOSTOEVSKY *Brothers Karamazov* BK V 115a c 127b  
 53 JAMES *Psychology* 381a 400b 687a 688a  
 54 FREUD *Interpretation of Dreams* 277d

8c The interpretation of poetry

- NEW TESTAMENT *Matthew* 13 3-50 18.23 31 21.28 44 / *Mark* 4 3 20 / *Luke* 8 5 5 15-16 6 1 13 18.2-8  
 7 PLATO *Protagoras* 52d 57c / *Ion* 142a 148a / *Apology* 202c d / *Republic* BK II 321b d  
 9 ARISTOTLE *Poetics* CH 25 [1461 9-235] 697c 698c  
 11 PLUTARCH *Comolustus* 189b-c  
 18 AUGUSTINE *Christian Doctrine* BK II CH 6 638a d CH 9-10 640 641a CH 12 641 642b c 16 644b 645d BK III CH 5 659d 660a CH 24 37 666d 674d  
 19 AQUINAS *Summa Theologiae* PART I Q 1 A 9-10 8d 10c  
 20 AQUINAS *Summa Theologiae* PART II Q 101 A 2 REP 2 267a 268a  
 21 DANTÉ *Divine Comedy* HELL, IX [61-63] 13 PURGATORY VIII [19-21] 64c XXXIII [64 91] 104d 105a  
 24 RABELAIS *Gargantua and Pantagruel* BK I 1b d 3a c 66b 67d BK III 146 150d  
 25 MONTAIGNE *Essays* 104d 105b 285a b 362a 363b  
 40 GIBBON *Decline and Fall* 346a II

- 46 HEGEL *Philo-sophy of History* PART II 263d  
265c  
48 MELVILLE *Moby Dick* 151b 152a  
51 TOLSTOY *War and Peace* bk viii 324b-d  
bk vii 533b c 534c d  
54 FREUD *Interpretation of Dreams* 246b 248c /  
*General Introduction* 509a 513d *passim* / *Intro-*  
*ductory Lecture* 816a b

9 The moral and political significance of poetry

9a The influence of poetry on mind and character: its role in education

- 5 ARISTOPHANES *Achar-ni* [497-508] 460d  
461a [628-673] 462b-463a / *Clouds* 488a  
506d *imp* [575-594] 495 d [882-1104] 499b-  
502a / *Wasps* [1010-1070] 519d 520c / *Frogs*  
554a 582a c esp [1008-1093] 576b-577c [1417  
1533] 581a 582a c / *The Frogs* 1010a [330-  
567] 604b 606c  
7 PLATO *Protagoras* 46b c / *Phaedrus* 140a d  
/ *Ion* 144b 145c / *Symposium* 156b c /  
*Gorgias* 280d 282b / *Republic* bk ii i  
320c 339a bk iv 344b-d bk vii 391 d  
bk x 427c-434c / *Timaeus* 455b-c / *Laus*  
bk ii 653a 663d esp 654b d bk iii 673  
676b bk vii 724c 725b 727c 728b  
9 ARISTOTLE *Poetics* bk vii c i 7 [336 30-  
33] 541b [1336-1335] 541c d bk viii ch 3  
542d 543d ch 5 7 544c 548a c  
11 AURELIUS *Maurus* bk i sect 7 253b d  
14 PLUTARCH *Lycurgus* 33d 34a 43b-d / *Solon*  
76a b / *Pericles* 121a 122b  
15 TACITUS *Annals* bk xiv 146b-c  
17 PLOTINUS *First Ennead* tr. iii ch 1-2 10a d  
/ *Fourth Ennead* tr. iv ch 40 180b a  
18 AUGUSTINE *City of God* bk i pa 20-22  
5a-c par 25-27 7a d bk iii pa 2 4 13c 14b  
bk x par 49-50 83c 84b / *City of God* x i  
ci 31 33 147d 149a x i ch 8 14 153d  
157c bk iv ch 16-27 202a 203 / *Christian*  
*Dilemma* bk ii ch 6 638a d  
21 DANTE *Divine Comedy* *HELLA* 1 [61-135] 1d  
2 PURGATORY xx i [55-93] 87a-c *ARAD* 5  
1 [37] 106a b ii [1-18] 107d xv i [100-142]  
133a-c  
22 CECIL *Intro to Man of Law's Prologue*  
[4465 4310] 234b 235b / *Prologue* *Millicent*  
400b-401a / *Nun Priest Tale* [5 444 452]  
460a [1] / *L'Enu* 550a [1]  
23 HORACE *Levathan* PART I 69c PART III  
183b  
24 R. S. L. *Gargantua and Pantagruel* bk ii  
146a 150d  
25 M. V. LAIGNE *Esays* 71c 79a 80b  
26 SHAKESPEARE *Two Gentlemen of Verona*  
A ii sc i [66-95] 145a b  
27 S. I. KESPE *de H. mlet acti* ch [616-633]  
46c-d

- 29 CERVANTES *Don Quixote* esp PART I XIII d  
1a 3b 13b 16c 184a 187c 189d 193c PART II  
252a b 322a c 427c 429a  
30 BACON *Advancement of Learning* 38d 39a  
78a d 79c 80a  
31 DESCARTES *Discours* PART I 43b  
32 MILTON *A Copagat* ca 385a 386b  
33 PASCAL *Pensées* ii 173b 174a  
35 H. I. K. *Human Understanding* SECT I DIV I  
451a b

- 39 S. I. K. *Health of Nation* bk v 347d  
40 GIBSON *D. C. and Fall* 3a b 94a b  
629 b  
41 GIBSON *D. C. and Fall* 225c 300a b  
573a 574b *passim*  
42 KANT *Judgement* 504a [1] 521b 523c 586d  
587a  
44 BOSWELL *Johnson* 116b 158a b 259b c esp  
259b [1a 2] 308b d  
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- The elements of inspiration emotion and tradition in the formation of poetry see ART 8 MEMORY AND IMAGINATION 3d
- Other aspects of the distinction between tragedy and comedy see HAPPINESS 4b
- Matters related to the theory of emotional purgation see ART 8 DESIRE 4d
- The place of poetics among the sciences see PHILOSOPHY 2c
- The discussion of poetic truth and probability see MEMORY AND IMAGINATION 7b TRUTH 4b
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- Matters bearing on the interpretation of poetry see RHETORIC d
- The role of poetry and other fine arts in education see ART 10a EDUCATION 4d VIRTUE AND VICE 4d(4)
- Other discussions of the problem of censorship or of the political regulation of artistic expression see ART 10b EDUCATION 8c EMOTION 5c LIBERTY 2a

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups:

- I Works by authors represented in this collection
- II Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

## I

- PLUTARCH *How a Young Man Ought to Hear*  
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- DANTE *De Vulgari Eloquentia*  
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## II

- HORACE *The Art of Poetry*
- LONGINUS *On the Sublime*
- DELIBRIUS *On Style*

- BOCCACCIO *On Poetry*
- P. SIDNEY *An Apology for Poetry*
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- VICO *The New Science* BK. II-III
- J. HARRIS *The First Concerning the First Concerning Music Painting and Poetry* The Third Concerning Happiness
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- BURKE *Historical Essay on the Dramatic*  
— *A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful* PART V
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 — *On Simple and Sentimental Poetry*  
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 — *My First Acquaintance with Poets*  
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 M RITCHIE *An Essay on Comedy and the Uses of the Comic Spirit*  
 FRAZER *The Golden Bough* PART CH 3  
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## Chapter 70 PRINCIPLE

### INTRODUCTION

OF the three ways in which principles are considered in the tradition of the great books the most familiar sense of the word is the one in which we speak of moral principles, principles of action, or political principles. The connotation of the word in this usage seems to be twofold. We think of principles as rules of conduct and we think of them as standards by which to measure and judge human acts or political events. Either conception attributes a certain generality to principles. Just as rules apply to an indefinite number of particular cases, so any principle we appeal to in order to decide a practical problem or to weigh the merits of an action undertaken, can be applied again and again in other circumstances.

In addition to this characteristic of generality, principles seem to have the quality of *underlying* or being the *source* of other things. In jurisprudence the search for principles consists in the attempt to discover those few most fundamental precepts from which the more detailed rules of law can be derived. The constitution of a state provides the principles which underlie its particular laws and sets the standards by which their legality is to be measured. Governments are judged by the principles they attempt to apply as well as by their success in putting these principles into practice. To say of a government that its acts are *unprincipled* is not to condemn the particular acts as wrong, but to accuse the government of having no uniform policy to serve as a foundation for its acts.

This aspect of the meaning of principle—as the source from which a set of consequences follows—seems to be more characteristic of the idea of principle than the aspect of generality. According to its Latin derivation and the equivalent root in Greek, principle means a beginning or a foundation. Sometimes it means that which comes first absolutely, in the

sense of being before everything else; sometimes it means that which comes first only relatively, taking precedence over some things, but having others prior to itself. Since priority may be either absolute or relative—first without qualification or first only in a certain respect—the traditional phrase *first principle* does not have the redundancy of *first first* or *beginning beginning*.

If there are absolutely first beginnings, to which nothing else can be prior, they can legitimately be called *first principles* to distinguish them from principles which come first only in a certain respect. Only if there are first principles can regression to infinity be avoided in the search for origins. The propositions which lie at the foundation of a science may, for example, constitute its principles, but they may also be derived in turn from some prior science. Only the principles of a science which is prior to or independent of all others can be truly first principles.

THE FOREGOING example brings us to the other meaning of principle that is popularly recognized. It is the sense in which men speak of principles in relation to conclusions, or of principles as the foundations of a science.

The priority which belongs to principles in the domain of thought need not be temporal. Principles may or may not be first in the order of learning. But if they are not first in the temporal order, they must be first logically, as premises are logically prior to a conclusion, as in Euclid's *Elements* his principles—his definitions, postulates, and axioms—are logically prior to all the theorems he demonstrates by means of them.

It may be asked whether, among propositions related as premises and conclusions, the logical priority of one proposition to another

is sufficient to make the prior proposition a principle. Can a proposition be a principle if even though it is used as a premise in reasoning it lacks generality? For example is the particular proposition—that this bottle contains poison—a principle underlying the practical conclusion that its contents should not be swallowed?

Aristotle answers affirmatively. In the order of practical thinking he holds we deliberate neither about the end to be sought nor about the particular facts on which a choice of the means depends. The end cannot be a subject of deliberation he writes but only the means nor indeed can the particular facts be a subject of it as whether this is bread or has been baked as it should for these are matters of perception. The perceived particulars thus function as principles along with the most general of all practical propositions namely what the end should be. Calling the faculty which apprehends first principles intuitive reason Aristotle says that the intuitive reason involved in practical reasonings grasps the last and variable fact *i.e.* the minor premise. For these variable facts are the starting points for the apprehension of the end since the universals are reached from the particulars of these therefore we must have perception and this perception is intuitive reason.

Perception at least in the form of sense-perception seems to be only one of the two ways in which we apprehend the particular facts which are principles in practical reasoning. Like Aristotle Aquinas uses the judgment that *this is bread or iron* as an example of facts received through the senses which are principles accepted in the inquiry of counsel. But the moral quality inherent in particular acts does not seem to be perceptible by the senses alone and such particular moral judgments are also involved in moral reasoning. Aristotle suggests that habit (*i.e.* the moral habits or virtues) are the immediate source of such judgments which can be called perceptions of the particular even though they are not simply sense-perceptions.

Of first principles Aristotle explains we see some by induction some by perception some by a certain habituation. By induction we see the general truths by sense perception

the sensible particulars and by habituation the moral particulars. Hence Aristotle insists that anyone who is to listen intelligently to lectures about what is noble and just and generally about the subjects of political science must have been brought up in good habits. For the fact is the starting point and if this is sufficiently plain to him he will not at the start need the reason as well for the man who has been well brought up has or can easily get the starting points.

The word principle is used by Kant in a much more restricted sense. He reserves the status of principle to the general propositions which serve as the major premises in reasoning. In both the theoretic and the practical sciences principles express reason's understanding of universal and necessary relationships.

Kant differs from Aristotle in other respects. He differentiates between ordinary general propositions which merely serve as major premises in reasoning and the propositions he classifies as synthetic judgements *a priori*. He regards the former as principles only in a relative sense and treats the latter alone as principles absolutely. He also distinguishes between those principles of the *understanding* which he thinks are constitutive of experience and those principles of the *reason* which should be used in what he calls a regulative not a constitutive manner. They determine the direction and goals of thought beyond experience. But such differences concerning the nature and kinds of principles do not affect the commonly accepted meaning of principle as that from which in the temporal order of learning knowledge develops or that upon which in the logical order knowledge rests.

THE THIRD AND relatively unfamiliar sense in which principles are discussed in the great books does not refer to the sources of man's moral decisions political acts or scientific conclusions. The discussion in question refers to reality apart from man. Just as men try to discover the elements of matter or the causes of motion so they try to discover the principles of existence and of change. The issues which arise from this concern with the principles of reality are discussed in such chapters as BEING CAUSE CHANGE FORM NATURE and MATTER.



If the word principle always connotes a beginning every special sense of principle should involve some kind of priority. As we have already observed principles may be either prior in time or prior logically. But the principles of the universe or the principles of change are not usually thought to be prior in either of these ways. For them Aristotle specifies another kind of priority—priority in nature—to explain the primacy of those principles which constitute the nature of a thing. In his view for example matter and form are the principles of a physical substance. Since a substance composite of matter and form cannot exist until its matter and its form coexist matter and form are not prior to the substance they compose. Their priority to substance consists only in the fact that that which has the nature of a composite substance results from the union of matter and form as its natural components. Because the substance is the *natural resultant* matter and form can properly be called its *natural principles*.

This way of considering principles at once suggests a close relationship among principles, elements and causes and also indicates the connection between the present chapter and the chapters on CAUSE and ELEMENT. The ultimate parts into which a whole can be divided may be its principles as well as its elements. The form or matter of a substance may be in Aristotle's theory not only one of its principles but also a cause—a formal or a material cause. Among the great authors Aristotle and Aquinas alone seem to dwell upon the relationship of these three terms. They give instances in which the same thing is principle, element and cause as well as instances in which a principle is neither a cause nor an element, e.g. privation. In the sphere of human conduct an end is both a principle and a final cause but not an element. The last end is the highest final cause and the first principle—first in intention though last in attainment.

THE TRADITIONAL issues concerning this idea differ according to the general context in which the question of principles is raised. The main controversy for example with regard to principles in the order of reality is over their number and order.

Aristotle argues against an infinite number

of principles as incompatible with the very notion of principle itself. In his analysis of change or motion he tries to prove that no more than three principles are necessary and no less will do. These are as the chapter on CHANGE explains matter, form and privation. Considering the principles of the universe as a whole Plotinus also enumerates three and tries to prove that none can be added or subtracted. But whereas Aristotle treats the three principles of change as coordinate Plotinus places the cosmic principles in the absolute order of first, second and third.

We need not go seeking any other Principles writes Plotinus. This—the One and the Good—is our First; next to it follows the Intellectual Principle, the Primal Thinker and upon this follows Soul. Such is the order in nature. The intellectual realm allows no more than these and no fewer. Those who hold to fewer Principles must hold the identity of either Intellectual Principle and Soul or of Intellectual Principle and The First. To increase the Primals by making the Supreme Mind engender the Reason Principle and thus again engender in the Soul a distinct power to act as mediator between Soul and the Supreme Mind, this is to deny intellection to the Soul, which would no longer derive its Reason from the Intellectual Principle but from an intermediate. Therefore we must affirm no more than these three Primals.

In the sense in which Plotinus conceives the three primals they are not only principles in the order of reality but are themselves the ultimate grades or modes of reality. Similarly for Plato soul is not only the principle of life and thought in the universe but it also has its own existence in the realm of being. For Aristotle in contrast the principles of change do not have existence in and of themselves. Matter, form and privation are not substances but aspects of substance. They are present in every changing substance and in every change but they are only the principles of mutable being; they are not mutable beings in themselves.

Lucretius states two principles as the basic laws of nature. The first is that nothing comes into being out of nothing; the second that nothing is ever completely reduced to nothing.

ness The word principle is obviously not being used in the same sense here as when it designates The One for Plotinus soul for Plato matter for Aristotle or the atoms which Lucretius calls the first beginnings Here it does not refer to an entity or even to an aspect of some real being but rather to a law—the statement of a universal and necessary condition which governs all that is or happens It is in this sense that the proposition traditionally called the law of contradiction—that the same thing cannot both be and not be in the same respect at the same time—is said by Aristotle to be the first principle of being as well as of thought

The conception of the law of contradiction and the related laws of identity and excluded middle as principles of thought raises problems about logical principles in general—whether they are axioms or postulates whether they are merely rules of reasoning and demonstration or are themselves premises from which conclusions can be deduced If for example the law of contradiction is only a rule of thought which forbids the mind to affirm and deny the same proposition then it is not a principle of knowledge in the sense in which the definitions and axioms of geometry function as premises in the demonstration of theorems No conclusion can be drawn from it concerning the nature of things But if in addition to being a rule of thought it is a metaphysical axiom which states the most fundamental fact about existence then like the axioms in geometry it may be the source of conclusions in metaphysics

On this second point Locke seems to differ sharply from Aristotle and Aquinas He denies that the laws of identity and contradiction are fruitful principles of knowledge These magnified maxims he writes are not the principles and foundations of all our other knowledge Nor have they been he adds the foundations whereon any science hath been built There is I know a great deal of talk propagated from scholastic men of sciences and the maxims on which they are built but it has been my ill luck never to meet with any such sciences much less any one built upon these two maxims what is is and it is impossible for the same thing to be and not to be

WE SHALL PRESENTLY consider the issue concerning axioms or postulates—whether the principles of the sciences are self evident truths or are only provisional assumptions Those who are willing to admit the existence of axioms do not all agree however that such truths refer to reality Hume for example limits the content of axioms to knowledge of the relations between our own ideas They are not truths about real existence or matters of fact

Locke also grants self evidence only to perceptions of the agreement or disagreement between ideas Concerning the real existence of all other beings except ourselves and God we have he writes not so much a demonstrative much less a self evident knowledge and therefore concerning these there are no maxims But Locke does think that our demonstrative knowledge of God's existence depends upon an intuitive knowledge of our own existence and in addition to knowing our own existence directly or without proof he also thinks we have through our senses an equally direct knowledge of the existence of other things Such intuitive and sensitive knowledge of particular existences is like the truth of axioms immediate—that is something known directly or without proof without any appeal to prior propositions Hence Locke is not denying that we know some immediate truths about reality but only that such truths consist exclusively of propositions about particular existences Since axioms or what Locke calls maxims are always general propositions the self evident truths which they express do not apply to reality

William James uses the word intuitive—in a different sense from Locke—to characterize propositions that state the necessary and eternal relations which the mind finds between certain of its ideal conception Intuitive propositions are for him therefore what maxims are for Locke and like Locke James also denies that such axioms of reason hold for reality Only *hypothetically* he says can we affirm intuitive truths of real things—by supposing namely that real things exist which correspond exactly with the ideal subject of the intuitive propositions The intuitive propositions of Locke leave us regards outer reality none the better for the proposition We

still have to go to our senses to find what the reality is

The vindication of the intuitionist position James continues is thus a barren victory. The eternal verities which the very structure of our mind lays hold of do not necessarily themselves lay hold on extramental being nor have they as Kant pretended later a legislating character for all possible experience. They are primarily interesting only as subjective facts. They stand waiting in the mind forming a beautiful ideal network and the most we can say is that we *hope* to discover outer realities over which the network may be flung so that ideal and real may coincide.

The opposite view seems to be taken by Plato Aristotle Aquinas Bacon Descartes Spinoza and Kant. Though they are far from being in complete agreement concerning the principles of knowledge the propositions which they call axiomatic self-evident intuitive or *a priori* synthetic judgments are not restricted by them to the mind's perception of the relations between *its own* ideas. There are self-evident or immediate truths in physics and metaphysics as well as in mathematics and logic. Whether these are inductions from experience or innate possessions of the mind whether they are intuitive apprehensions of intelligible being or *a priori* judgments having a transcendental origin these propositions are held to describe the world of experience or the nature and existence of things outside the human mind.

THERE SEEM TO BE two degrees of skepticism with regard to principles in the order of knowledge. Complete skepticism would consist in denying principles in every sense. That would be the same as denying any beginning or basis for even the opinions which men hold. No one seems to go that far.

The issue with respect to the foundations of knowledge or opinion is therefore not between those who affirm and those who deny principles but between different views of what the starting points are. It is sometimes said for example that sensations are the principles or beginnings of all human learning. This view is shared both by those who think that all our ideas or concepts are abstracted from the mate-

rials provided by the senses and by those who account for all the other contents of the mind—its memories and imaginations its complex formations—in terms of the simple impressions originally received by the senses.

Concepts as distinct from sense-perceptions are also sometimes regarded as principles of knowledge by those who think that concepts originate by abstraction from sensory materials as well as by those who think that ideas are primary principles *i.e.* having no origin in any prior apprehensions. On either view ideas or concepts function as principles insofar as they are the simples from which the more complex acts of the mind develop such as the acts of judgment and reasoning. Just as on the level of language words are the principles of all significant speech out of which sentences and paragraphs are formed just as in the logical order terms are said to be the principles of propositions and syllogisms so concepts are the principles of judgments and reasonings. The definitions of Euclid for example state the notions of point line triangle etc. which underlie his theorems and demonstrations.

One common characteristic of either sensations or concepts as principles of knowledge seems to be simplicity. Nothing more elementary out of which they can be formed is prior to them. Another characteristic is that they are principles of knowledge or opinion without being themselves acts of knowledge or opinion. This point is made by all who hold that only propositions—whether statements of opinion or of knowledge—can be true or false.

The terms which express the simple apprehensions of the mind—its sensations or concepts—cannot be true or false because unlike propositions which are composed of terms they do not assert anything. If sensations and concepts cannot be true or false in the sense in which propositions or judgments are then they lack the distinctive property of knowledge or opinion. In contrast propositions or judgments—which are supposed to be principles which are axioms or assumptions—can be treated as themselves expressions of knowledge or opinion merely as its starting points or sources.

THE TWO DEGREES of skepticism previously mentioned apply only to those principles

knowledge which are themselves capable of being regarded as knowledge or opinion and hence as either true or false

We have already considered the skepticism of those who admitting that the truth of some propositions can be immediately recognized by the mind nevertheless deny that such self-evident truths describe reality. This may or may not be accompanied by a further depreciation of axioms on the ground that they are merely analytical propositions and hence trifling, unconstructive or tautological.

The chapter on JUDGMENT considers the issue which revolves around the derogatory use of such words as tautology or truism to designate self-evident truths. Though the invective connotation of the word truism does not make the truth to which this epithet is applied any less true, the dignity of a truth does seem to be affected by the refusal to regard it as a statement of reality. Furthermore, a certain degree of skepticism results from such refusal. Hume exemplifies this. He holds that self-evident truths are possible only in mathematics which deals not with matters of fact but with the relations between our own ideas. In consequence, he denies to the study of nature the certitude or demonstrative character which he finds in mathematical science. Since physics is concerned with real existences, no axioms or self-evident principles are available to it, and so, according to Hume, it cannot demonstrate its conclusions but must advance them as probabilities.

A more thorough going skepticism seems to consist in holding that there are absolutely no matters at all about which men have axiomatic knowledge. This appears to be the position of Montaigne. No truths are self-evident. None commands the universal assent of mankind, none belongs to the nature of the mind so that all men must agree to it. Montaigne almost holds it to be axiomatic that there are no axioms for if there were, he says, there would be some one thing to be found in the world that would be believed by men with an universal consent, but it is that there is no one proposition that is not debated and controverted amongst us, or that may not be, makes it very manifest that our natural judgment does not very clearly comprehend what it embraces.

If it is objected that in the absence of such principles there is no starting point or foundation for science, Montaigne seems willing to accept the consequence. He does not flinch from an infinite regression of reasons. No reason, he writes, can be established but upon the foundation of another reason, and so run back to all infinity. To those who say that there is no disputing with persons who deny principles, he replies that men can have no principles if not revealed to them by the Divinity of all the rest, the beginning, the middle and the end are nothing but dream and vapor.

If however for practical purposes a beginning must be made somewhere, Montaigne suggests that it can be done by taking things for granted and then getting others to grant our presuppositions. It is very easy, he writes, upon granted foundations to build whatever we please. By this way we find our reason well grounded and discourse at a venture for our masters prepossess and gain beforehand as much room in our belief as is necessary for them towards concluding afterwards what they please as geometers do by their postulates, the content and approbation we allow them giving them power to draw us to the right and left and to whirl us about at their own pleasure.

If the only principles upon which reasoning can be based or from which conclusions can be drawn are assumptions, postulates or hypotheses rather than axioms, then everything is a matter of opinion and probability, nothing can have the certitude of knowledge. As indicated in the chapters on KNOWLEDGE and OPINION, one theory of that distinction makes knowledge an act of the mind independent of our wishes or will and treats opinion as a judgment voluntarily accepted or rejected. Accordingly, assumptions or postulates are perfectly representative of opinion and axioms express the very essence of knowledge. To assume or postulate anything is to take it for granted—voluntarily! A postulate neither compels assent nor does it ever exclude the possibility of taking the opposite for granted. When men make postulates, there dispute is possible. But to assert something as an axiom is to command assent on the ground that its opposite can be

immediately recognized as impossible. No proposition can be regarded as an axiom if its acceptance or rejection is in any way a matter of choice.

For Aristotle the area in which men can dispute with some reason on both sides belongs to what he calls dialectic whereas what he calls science is the area from which dispute is excluded by demonstrations which rest on self-evident truths. One is the area of probability and opinion, the other of certainty and knowledge. Contrary assumptions are the starting point of dialectical argument whereas science begins with axioms. These may be the first principles which Aristotle and Bacon call common notions because they are common to diverse sciences or they may be the axioms peculiar to a single subject matter.

The word dialectic is used by Plato in a quite different sense. It names the highest science. Whereas the mathematical sciences start from hypotheses which require further support, dialectic—in the conception of Plato—rises to the first principles of all knowledge. In the hierarchical ordering of the sciences Plato's dialectic, Aristotle's metaphysics and Bacon's *philosophia prima* seem to occupy respectively the same primary position and to perform the same function in virtue of being the discipline which contemplates or considers the absolutely first or most universal principles. For Bacon as for Aquinas the only higher science is sacred theology whose principles are articles of supernatural faith, not axioms of reason.

These matters are more fully discussed in the chapters on DIALECTIC, METAPHYSICS and THEOLOGY, questions concerning different kinds of principles or the principles of different sciences are considered in HYPOTHESIS and LOGIC. The chapter on INDUCTION furthermore discusses the inductive origin of axioms as well as the disagreement between Bacon and Aristotle on the point of whether the highest axioms or first principles are immediately intuited from the particulars of experience or are reached only through intermediate stages of generalization.

Since axioms are indemonstrable they can not be derived by reasoning as conclusions from any truths prior to themselves. Their indemon-

strability is regarded by Aristotle and Pascal as a virtue rather than a defect for if they were demonstrable they could not be the principles or starting points of demonstration. If there were no axioms then nothing could be demonstrated because everything in turn would require proof in an endless regression.

To the ancient counterparts of the skeptical Montaigne, Aristotle replies that unless the law of contradiction is an indisputable axiom any form of reasoning, even probable reasoning from assumptions, is impossible. The principle which underlies all disputation cannot itself be disputed. To those who with skeptical intent, insist upon having everything demonstrated before they will accept it, Aristotle offers an indirect defense of the law of contradiction by asking the questioner to try denying that self-evident principle without reducing himself to absurdity.

Those who acknowledge the existence of axioms generally agree that they are indemonstrable truths but some like Descartes and Kant do not agree that they are inductions from experience. The alternatives seem to be that axioms are innate possessions of the intellect or that they are transcendental *a priori* principles of pure reason independent of experience. Yet Locke who denies innate ideas and principles or anything prior to experience does not treat what he calls self-evident maxims as inductions from experience. They are rather direct perceptions of agreement or disagreement among the ideas we have acquired through experience.

Aquinas who no less than Locke denies innate ideas and insists upon sense experience as the source of all human knowledge refers to the assent we give first principles as a *natural habit* of the mind—the intellectual virtue he calls understanding equivalent to what Aristotle calls intuitive reason. As the chapter on HABIT indicates axioms are called natural truths not in the sense of being innate, instinctive or congenital but only in the sense that if the human reason functions naturally or normally it will come to recognize these truths. Again like Locke Aquinas seems to be saying that the truth of axioms is perceived by the human understanding as soon as their terms are known but he does not concu-

with Locke in thinking that therefore such truths hold only for relations between our own ideas

THE THEORY of the possession of principles by natural habit has for Aquinas more than a verbal connection with the theory of natural law. Of the various meanings of the phrase natural law which are distinguished in the chapter on LAW we are here concerned with what both Kant and Aquinas conceive as the moral law whose precepts are the fundamental principles of human conduct. Both also speak of the precepts of the natural law or the moral law as the first principles of man's practical reason.

For Aquinas these principles are primary in the order of practical truth and the moral sciences as metaphysical first principles are primary in the order of speculative truth and the theoretic sciences. The precepts of the natural law he writes are to the practical reason what the first principles of demonstration are to the speculative reason because both are self-evident principles. As the proposition that *the same thing cannot be affirmed and denied at the same time* is the first principle of the speculative reason so the first precept of law that *good is to be done and evil is to be avoided* is the first principle of the practical reason.

For Kant the principles of the pure practical reason which legislate *a priori* for the realm of freedom play an analogous role to the principles of the pure speculative reason which legislate *a priori* for the realm of nature or experience. It is this parallelism between the two sets of principles which Kant seems to have in mind when he conceives a *metaphysic of nature* and a *metaphysic of morals* as twin disciplines founded on the speculative and the practical employment of the transcendental principles of pure reason.

The same fundamental issues which we have considered in connection with the axioms of theoretic knowledge occur here in connection with the first principles of moral knowledge. Aquinas and Kant disagree for example about the way in which we come into possession of these principles. For Kant the principles of morality like the principles of nature belong

to the transcendental structure of pure reason itself. For Aquinas as already suggested the precepts of the natural law are known in the same way as the axioms of the speculative reason. As the truth of the principle of contradiction is known when we understand the meaning of *is* and *not* so the truth of the first command of natural law—*Seek the good*—is known when we understand the meaning of *seek* and *good*. We hold such truths by the natural habit of our minds which in the case of the natural law is given the special name of *synderesis*.

Just as we find a certain skepticism with regard to the principle of contradiction and other axioms so we find doubts about the existence of natural law or about indisputable and universally acceptable principles of morality. Referring to those who think that there are some laws first perpetual and immutable which they call natural that are imprinted in mankind by the condition of their own proper being, Montaigne declares that the only sign by which they can argue or infer some laws to be natural is the universality of approbation, and he adds: Let them produce me but one of this condition.

The consequences of skepticism are here the same as before. Without first principles moral science either fails entirely or is reduced to systems of belief based upon one set of assumptions or another. In either case moral judgments express not knowledge but opinion. As John Stuart Mill observes the utilitarians must despite all other differences agree with Kant that if there is to be a science of ethics, morality must be deduced from principles and ultimately from one first principle for if there be several there should be a determinate order of precedence among them.

What Mill says concerning the self-evidence of the first principle of morality—which he formulates as a statement of the ultimate end of human conduct—closely resembles what Aristotle says about the self-evidence of the law of contradiction. Questions of ultimate ends are not amenable to direct proof. Mill writes: "To be incapable of proof by reasoning is common to all first principle to the first premises of our knowledge as well as to those of our conduct."

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## REFERENCES

To find the passages cited, use the numbers in heavy type, which are the volume and page numbers of the passages referred to. For example, in 4 HANNAH 12d, BK II (67-73) 12d, the number 4 is the number of the volume in the set; the number 12d indicates that the passage is in section d of page 12.

**PAGE STRUCTURE.** When the text is written in one column, the letters a and b refer to the upper and lower halves of the page. For example, in 3 JAMES PETER 39 11a 11b, the "very" begins in the upper half of page 11a and ends in the lower half of page 11b. When the text is printed in two columns, the letters a and b refer to the inner and outer halves of the left-hand side of the page, the letters c and d to the inner and lower halves of the right-hand side of the page. For example, in 7 PETER SYMMON 133b-134c, the passage begins in the lower half of the left-hand side of page 133, and ends in the upper half of the right-hand side of page 134.

**SECTION & DIVISIONS.** One or more of the main divisions of a work (such as PART BK, CH, §) are sometimes included in the reference line numbers, in brackets, as given in our text books, e.g., 12a, BK II (67-73) 12d.

**EXACT REFERENCES.** The references are to book, chapter, and verse. When the King James and Douay versions differ in title of book or in the composition of ch or verse, the King James version is given first and the Douay indicated by a (D) follows, e.g., Old Testament: MATTHEW 23-(D) II EZEKIEL 23.

**SYMBOLS.** The abbreviation "or" calls the reader's attention to one or more especially relevant parts of a whole reference; "passim" signifies that the topic is discussed innumerable rather than continuously in the work or passage cited.

For additional information concerning the style of the references, see the Explanation of Reference Style; for general guidance in the use of *The Great Lexicon*, consult the Preface.

# 1. PRINCIPLES in the order of reality

## 1a. The differentiation of principle, element, and cause

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(1) *Principles in the order of reality* 1b *The being, number and kinds of principles in the order of reality*

- 84 A 2 ANS and REF 3 442b-443c A 4 REF 1 444d 446b Q 115 A 2 587c 588c
- III DESCARTES *Discourse* PART VI 61d 62c
- 31 SPINOZA *Ethics* PART II PROP O SCHOL 376d 377a
- 34 NEWTON *Principles* 1b 2a LAW I 11 14a b BK III GEN RAL SCHOL 371b-372a / *Optics* BK III 541b 542a
- 42 KANT *Pure Reason* 66d 93c esp 68a 74b 85d 88a 108a 112d esp 110a d / *Judgement* 467d-470b 565b-d 566d 567a 575b 578a
- 45 LAVOISIER *Elements of Chemistry* PREF 3b-4a
- 45 FOURIER *Theory of Heat* 169a b
- 51 JAMES *Psychology* 882a 884b

1c *The metaphysical significance of the principles of thought*

- 7 PLATO *Euthydemus* 72d 73b / *Republic* BK IV 350d 351b
- 8 ARISTOTLE *Interpretation* ON CH 13 [ 28 23 26] 34d 35c / *Metaphysics* BK II CH [995<sup>b</sup> 10] 514a CH 2 [996<sup>b</sup> 6-997 15] 515b d BK IV CH 3 524b 525a BK VI CH I [1059 23 26] 587a
- 20 AQUINAS *Summa Theologica* PART II Q 94 A 2 ANS 221d 223a
- 31 DESCARTES *Discourse* PART IV 52a / *Objections and Replies* D III 130b AXIOM V 131d 132a
- 31 SPINOZA *Ethics* PART II PROP II 376d 377 PROP 37 40 386b 388b PROP 44 CO OL 2 390a
- 35 LOCKE *Human Understanding* BK IV CH VII SECT 10-11 339b 342d
- 42 KANT *Pure Reason* 15 16c 59c 107b / *Pf of Metaphysical Elements of Ethics* 367d 368a / *Judgement* 543d 544a 560 562a d 600d 601d 603b c
- 46 H G L *Philosophy of Rights* PREF 6c
- 53 JAMES *Psychology* 302a b 671a 672a 852 862 866a 873a 874a 881b 886a esp 881b-882 884b 886 890
- 54 FREUD *New Introduction to Lectures* 877b c

2 *The kinds of principles in the order of knowledge*

2a *The origin of knowledge in simple apprehensions*

2a(1) *Sensations or ideas as principles*

- 7 PLATO *Symposium* 167 b / *Phaedo* 228a 230c / *Republic* K 392b 393b / *Theaetetus* I 517b 536b / *Seventh Letter* 810d
- 8 ARISTOTLE *Posterior Analytics* K I CH 18 111b c / *Metaphysics* BK CH I [930 28 24] 499a
- III LUKRETIUS *Nature of Things* BK I [4 2 425] 6b [693 70] 9c K I [434 436] 20 BK IV [353-521] 48d 51a esp [469-521] 50b 51a

- 19 AQUINAS *Summa Theologica* PART I Q 12 A 12 ANS 60d 61c Q 17 A 1 ANS 100d 101d Q 18 A 2 ANS 105c 106b Q 84 A 6 447c-449a A 8 ANS and REF 1 450b 451b PART II Q 14 A 11 ANS 680c-681a

23 HOBBS *Leviathan* PART I 49a

28 GILBERT *Loadstone* BK I 105c

28 H RVEY *On Animal Generation* 332a 335c esp 334c d

- 35 LOCKE *Human Understanding* BK I CH I SECT 15 98d 99a BK II CH I SECT 1-8 121a 123a esp SECT 2 121b-c SECT 23 25 127b d esp SECT 24 127b c CH II SECT 2 128a b CH VII SECT 10 133a BK CH XIII SECT 1-6 148d 149d esp SECT 2 149a CH XIV SECT 2 155b c SECT 27 160d 161a SECT 30-31 161c 162a CH XV SECT 2 3 162c d CH XVII SECT 22 CH XVIII SECT 1 173d 174a CH XVIII SECT 6 174c d CH XVII SECT 9 202c 203a BK III CH I SECT 5 252b c CH IV SECT III 14 262b 263a

- 35 BERKELEY *Human Knowledge* INTRO 405 412a c passim esp SECT 4 405c d SECT 17 409d 410a

35 HUME *Human Understanding* SECT II 455b 457b SECT VII DIV 49 471c d

42 KANT *Pure Reason* 14a 22a c 66d 72c esp 69c 72c 101b 107b

53 JAMES *Psychology* 452a 459b esp 453b 454a 455a-457a 480a

54 FREUD *Ego and Id* 701d

2a(2) *Definitions as principles*

- 7 PLATO *Phaedrus* 134b d 140a b / *Meno* 174a 179b / *Theaetetus* 544c 549d / *Seventh Letter* 809c 810d
- 8 ARISTOTLE *Posterior Analytics* 97a 137a c passim esp BK I CH 3 [72<sup>b</sup> 18 24] 99b c CH 10 [76<sup>b</sup> 35 77 4] 105c d CH 22 [84 6<sup>b</sup> 2] 114d 115b CH 23 [84<sup>b</sup> 19-85 3] 115c 116a BK II CH 3 10 123c 128d / *Topics* BK VII CH 3 [153<sup>b</sup> 11] 208a BK VIII CH 3 [158 31 159<sup>b</sup> 2] 214d 215c / *Metaphysics* BK III CH 2 [996<sup>b</sup> 18 21] 515b BK IV CH 7 [1012 18 24] 53 b CH 8 [1012<sup>b</sup> 5-8] 532c BK VII CH 1 [1036 1-8] 559b BK VI CH 4 [1078<sup>b</sup> 17 3] 610b-c / *Soul* BK I CH I [402<sup>b</sup> 15 4 3<sup>b</sup>] 631d 632a

- 19 AQUINAS *Summa Theologica* PART I Q 2 A 2 REF 2 11d 12c Q 17 A 3 REF 1 2 102d 103 Q 58 A 5 303c 304c Q 85 A 6 458d 459c

20 AQUINAS *Summa Theologica* PART II Q 94 A 2 ANS 221d 223a

23 HOBBS *Leviathan* PART I 56b d 58d 59c 65d PART IV 269b c

31 DESCARTES *Objections and Replies* 128c

33 PASCAL *Geometrical Demonstrations* 430b-431b

- 35 LOCKE *Human Understanding* BK III CH IX SECT 15 16 288d 289c CH XI SECT 15 17 303b 304a BK IV CH III SECT 20 319b

- 42 KANT *Pure Reason* 215b 217a  
 46 HEGEL *Philosophy of Right* INTRO par 2  
 9b-10  
 54 FREUD *Instincts* 412a b

## 2a(3) Indefinables as principles of definition

- 7 PLATO *Theaetetus* 544c 547c  
 8 ARISTOTLE *Metaphysics* BK I CH 9 [992<sup>b</sup>24-993<sup>i</sup> 511a B BK II CH 2 [994<sup>b</sup> 6-27] 513 b  
 BK V CH 3 [1014<sup>b</sup> 13] 534d BK VIII CH 3 [1043<sup>b</sup>28 33] 568b  
 33 PASCAL *Geometrical Demonstration* 431b-434a 442a-443b  
 35 LOCKE *Human Understanding* BK II CH II SECT 2 128a b CH VII SECT 10 133a b CH XII 147b 148d CH XVII SECT 1 174a SECT 6 174c d BK III CH IV SECT 12 14 262b 263a  
 42 KANT *Pure Reason* 215d 216c  
 44 BOSWELL *Johnson* 82b

## 2b Propositions or judgments as principles

## 2b(1) Immediate truths of perception direct sensate knowledge of appearances evident particular facts

- 8 ARISTOTLE *Posterior Analytics* BK I CH 8 111b-c CH 3 [84<sup>b</sup> 9-85<sup>i</sup> 1] 115c 116 BK I CH 2 [90<sup>a</sup>24 30] 123b-c CH 19 136 137a / *H* CH K III CH 7 [306 -18] 397b c / *Metaphysics* BK I CH 1 [98<sup>b</sup>10-13] 499d 500a CH 9 [99<sup>b</sup>24-993<sup>i</sup> 511a b BK IV K 5 [10<sup>a</sup> 4 26] 530b-c K VI CH 10 [ 36 1-8] 559b-c K XI CH 6 [ 62<sup>b</sup>33 63 9] 591 b  
 9 ARISTOTLE *Ethics* K I CH 4 [1095 30-<sup>b</sup>12] 340c d H 7 [1098 35-<sup>b</sup>3] 343d BK I H 9 [11 9<sup>a</sup>20-23] 355c K III CH 3 [1 2<sup>b</sup>34 113<sup>a</sup>] 358d 359a K V H II [1143 25<sup>b</sup>6] 392d 393a BK VII CH 3 [ 147<sup>a</sup>25<sup>b</sup>6] 397 d BK X CH I [117 34 7] 426b-c CH 8 [ 79 16- 3] 433d-434a  
 11 LUCRETIVS *Nature of Things* BK I [693-700] K IV [469-5] 50b 51a  
 19 AQUINAS *Summa Theologiae* PART I Q 14 6 ANS 680 681a  
 28 HARVEY *Of the Generation* 332a 335  
 31 DESCARTES *Objections and Replies* 229d 230d  
 35 LOCKE *Human Understanding* BK I H I SECT 15-19 98d 100c esp ECT 9 100b c CT 3 101b 102 K IV CH I CT 4 307b-c CH I S T I 309b d H I S CT 2 319c CH VII CT 4 337b 338b CT 9-10 338d 340 SE T II 342c d CH XI 354 358c CH XII S CT 3 358d 359c  
 35 HUME *Human Understanding* CT V DIV 37 465c-466a  
 42 KANT *Pure Reason* 66d 72c esp 67d 68a / *Practical Reason* 351  
 43 MILL *Utilitarianism* sm 445d-446 461c  
 53 JAMES *Psychology* 867a 868b

## 2b(2) Immediate truths of understanding axioms or self-evident truths a priori judgments as principles

- 8 ARISTOTLE *Posterior Analytics* BK I CH 7 [72<sup>b</sup>7-9] 98c [72 15-19] 98c d CH 3 99b 100a CH 15 109a B K II CH 9 128a b / *Metaphysics* BK III CH 2 [996<sup>b</sup>26-997<sup>a</sup>14] 515b d BK IV CH 3 [1 5<sup>b</sup>23-34] 524d 525a  
 9 ARISTOTLE *Ethics* K V CH 6 389d CH 8 [ 142<sup>a</sup>25-29] 391b c CH II [1143<sup>a</sup>25<sup>b</sup>13] 392d 393a / *Rhetoric* BK I CH 2 [ 356<sup>b</sup>26-28] 596b  
 19 AQUINAS *Summa Theologiae* PART I Q 2 A 1 ANS 10d 11d Q 17 A 3 RE 102d 103c Q 84 A 3 REP 3 443d 444d Q 85 A 6 ANS 458d 459 Q 87 A 1 REP 1 465 -466c Q 117 A 1 ANS and REP 3 595d 597c PART I II Q I A 4 REP 2 612a 613a A 5 ANS 613a 614a  
 20 AQUINAS *Summa Theologiae* PART I II Q 57 A 2 36a 37b H 90 A 2 REP 3 206b 207a Q 91 A 3 ANS 209d 210 Q 94 A 2 AN 221d 223a A 4 AN 223d 224d PART II-II Q 8 A R 417a d  
 25 MONTAIGNE *Essays* 260c 261a  
 30 BACON *Advancement of Learning* 61d  
 31 DESCARTES *Rules* II 4a d IV 5 d 6d V 8d 9a VIII 13 d XII 23c / *Discourse* PART IV 51b 52a / *Meditations* v 95a 96a / *Objections and Replies* 123a b 125a b 224b d  
 33 PASCAL *Pensées* I 171a 172a  
 35 LOCKE *Human Understanding* K I 95b d 121a c esp H I SECT 5 19 98d 100c S CT 3 101b 102 CH II S CT 21 27 111a 112 CH III SECT 23 119b 120 K IV H I S CT 4 307b c CH ECT 309b d S CT 7-8 310d 311a CH VII 337a 344d S CT 1 337a SECT 10- 339b 342d H IX S CT 3 349a H CH XI SECT 1-6 358c 360 ECT 362b c S CT 15 363a b CH XV ECT 14 17 378c 379c CH XX CT 7 390d 39 a  
 42 KANT *Pure Reason* 31 d 64d 93c esp 64d 66d 68a 74b 85d 88 211c 218d 225a 227a / *Fundamental Principles of Metaphysics* 268b d 279 d / *Practical Reason* 295b-d 329d 330 / *Judgement* 542d 543  
 43 DECLARATION OF INDEPENDENCE [7- 5] 1a b  
 43 FEDERATION NUM 831 103c 104a NU R 83 244b c  
 43 MILL *Utilitarianism* 445d-447a 458d-459c  
 53 JAMES *Psychology* 319b-320a 869a 879b passim c p 869a 870 872b

## 2b(3) Constitutive and regulative principles the maxims of reason

- 42 KANT *Pure Reason* sm 72c 74b p 73c 74a 109d 112d 194b 199 209d esp 199 200 201d 202 206a 207b / *Practical Reason* 343a 349b 355d / *Metaphysics* f M r als 390b 392b d / *Judgement* 562a d 570b-572 577b 578 d

### 3 First principles or axioms in philosophy science dialectic

#### 3a Principles and demonstration

##### 3a(1) The indemonstrability of axioms natural habits of the mind

8 ARISTOTLE *Prior Analytics* BK II CH 16 [61<sup>a</sup>28 3b] 85c / *Posterior Analytics* BK I CH 3 99b 100a / *Metaphysics* BK III CH 2 [996<sup>b</sup> 26-997<sup>a</sup> 4] 515b-d BK IV CH 4 [1005<sup>b</sup>33-1006<sup>a</sup> 12] 525a b BK VI CH 5 [1061<sup>b</sup>34 1062<sup>a</sup> 5] 590a b / *Soul* BK I CH 3 [407<sup>a</sup>22 30] 636d 637a

9 ARISTOTLE *Ethics* BK VI CH 3 388b-c CH 6 389d CH II [1143<sup>a</sup>25<sup>b</sup> 13] 392d 393a

19 AQUINAS *Summa Theologica* PART I Q 14 A 1 REP 2 73d 76c Q 16 A 6 REP 1 98b-d Q 17 A 3 REP 2 102d 103c Q 19 A 12 42 c 426b PART II Q 1 A 4 REP 2 612a 613a A 5 ANS 613a 614a

20 AQUINAS *Summa Theologica* PART II Q 53 A 1 ANS 19d 21a Q 57 A 2 ANS and REP 2 36a 37b Q 94 A 1 221a d

30 H CON *Advancement of Learning* 56c 59c

33 PASCAL *Geometrical Demonstration* on 440b

35 LOCKE *Human Understanding* BK I CH I SECT 10-II 97c 98a CH III SECT 23 119b-120a BK IV CH X SECT 10 354c 357b passim esp SECT 1 357a b

42 KANT *Pure Reason* 66d 72c esp 67c 69 211c 218d / *Judgement* 542d 543a

43 FEDERALIST NUMBER 31 103c 104a

43 MILL *Utilitarianism* 445d-447a 461c 465a b

53 JAMES *Psychology* 851a 890a esp 851a 852a 879b 882a 889a b

##### 3a(2) The indirect defense of axioms

8 ARISTOTLE *Metaphysics* BK IV CH 4-8 525a 532d BK XI CH 5-6 590a 592b

##### 3a(3) The dependence of demonstration on axioms the critical application of the principles of identity and contradiction

7 PLATO *Euthydemus* 72d 73b / *Cratylus* 112a / *Republic* BK IV 350d 351b

8 ARISTOTLE *Posterior Analytics* BK I CH 1-3 97a 100a CH 7 [73<sup>a</sup> 38<sup>b</sup>] 103c CH II 105d 106b CH 19-23 111c 116a CH 32 [88 36-4] 120d / *Topics* BK VIII CH 3 [158 31<sup>b</sup>] 214d 215a / *Metaphysics* BK II C 2 [996<sup>b</sup> 6-997<sup>a</sup> 14] 515b-d BK IV CH 3 [1005 18 27] 524b CH 4 [10 53<sup>b</sup> 1006 12] 525a b CH 6 [1011 3 14] 530d BK V C 1 5 [1015<sup>b</sup>6-9] 535d 536 BK VI CH 6 [1063<sup>b</sup>7 12] 591d

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43 FEDERALIST NUMBER 31 103c 104a

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##### 3b Principles and induction axioms in inductive inductions from experience stages of inductive generalization

8 ARISTOTLE *Prior Analytics* BK II CH 23 90a-c / *Posterior Analytics* BK I CH 18 111b-c BK II CH 2 [90<sup>a</sup>24 30] 123b c CH 7 [92 34<sup>b</sup>] 126b CH 19 136a 137a c

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##### 3c Axioms in relation to postulates hypotheses or assumptions

##### 3c(1) The distinctness between first principles in general or common notions and the principles of a particular subject matter or science

7 PLATO *Republic* BK VI 383d 388a esp 386d 388a

- 8 ARISTOTLE *Posterior Analytics* BK I CH 10 104d 105d CH II [77<sup>a</sup>26-35] 106b CH 32 120 121b / *Topics* BK I CH 2 [101 37<sup>b</sup>4] 144a / *Heavens* BK III CH 7 [306 1 18] 397b c / *Metaphysics* BK IV CH 3 [1005<sup>b</sup>15 18] 524d / *Soul* BK I CH I [402 7 23] 631b
- 9 ARISTOTLE *Rhetoric* BK I CH 2 [1358 3 33] 597d 598b
- 30 B ON *Advancement of Learning* 40a-48d esp 40-41b 43a-c, 44c 45a
- 35 BERKELEY *Human Knowledge* SECT 118 436b
- 33 MILL *Utilitarianism* 445b c
- 3c(2) The difference between axioms and as-  
sumptions hypotheses and principles  
as a basis for the distinction between  
knowledge and opinion or science and  
dialectic
- 7 PLATO *Republic* BK VI VII 383d 398 esp  
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- 42 KANT *Preface to the Critique of Judgment* 600d 604b
- 3c(3) The distinction and order of the sciences  
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- 7 PLATO *Republic* BK I 386d 388a BK VII  
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## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups:

I. Works by authors represented in this collection

II. Works by authors not represented in this collection

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## Chapter 71 PROGRESS

### INTRODUCTION

LIKE the idea of evolution with which it has some affinity the idea of progress seems to be typically modern. Anticipations of it may be found in ancient and mediaeval thought some times in the form of implicit denials of the idea. But in explicit formulation in emphasis and importance progress like evolution is almost a new idea in modern times. It is not merely more prominent in modern discussion it affects the significance of many other ideas and so gives a characteristic color or tendency to modern thought.

The idea of evolution affects our conceptions of nature and man. But the theory of evolution is itself affected by the idea of progress. Since it was a major theme at least two centuries before Darwin progress does not depend for its significance upon the theory of biological evolution. The reverse relationship seems to obtain. The idea of evolution gets some of its moral social even cosmic significance from its implication that the general motion in the world of living things perhaps in the universe is a progress from lower to higher forms.

Darwin thinks Von Baer has defined advancement or progress in the organic scale better than anyone else as resting on the amount of differentiation and specialization of the several parts of a being -- to which Darwin adds the qualification that the organisms must be judged when they have arrived at maturity.

As organisms have become slowly adapted to diversified lines of life their parts will have become more and more differentiated and specialized for various functions from the advantage gained by the division of physiological labor. The same part appears often to have been modified first for one purpose and then long afterwards for some other and quite distinct purpose and thus all the parts are rendered more and more complex. In accord

ance with this view Darwin writes it seems if we turn to geological evidence that organization on the whole has advanced throughout the world by slow and interrupted steps. In the kingdom of the Vertebrata it has culminated in man.

Whether strictly biological evolution has a single or uniform direction may be disputed in the light of evidences of regression and the multiplication of lower as well as higher forms. But Darwin seems to think that since natural selection works solely by and for the good of each being all corporeal and mental endowments will tend to progress toward perfection. Whatever the evidence may be the popular notion of evolution especially when applied by writers like Herbert Spencer to human society or civilization connotes progress--the gradual yet steady march toward perfection.

APART FROM THIS APPLICATION of the idea of evolution to man's world progress seems to be the central thesis in the modern philosophy of history. In the minds of some the philosophy of history is so intimately connected with a theory of progress that the philosophy of history is itself regarded as a modern development. There seems to be some justification for this view in modern works on the tendency of history which have no ancient counterparts such as the writings of Vico Condorcet Kant Proudhon Comte J. S. Mill Hegel and Marx.

These writers do not all define or explain progress in the same way. Nor do they all subscribe to an inviolable and irresistible law of progress which has the character of a divine ordinance replacing or transforming less optimistic views of providence. But for the most part the moderns are optimists. They either believe in man's perfectibility and his approach to perfection through his own effort



turned toward the realization of ideals or they see in the forces of history—whether the manifestations of a world spirit or the pressure of material (i.e. economic) conditions—an inevitable development from less to more advanced stages of civilization according to a dialectical pattern of conflict and resolution each resolution necessarily rising to a higher level

As opposed to the optimism of expecting a continual improvement in all things or an irreversible ascent to new heights the pessimistic view denies that progress is either the law or the hope of history. It believes rather that everything which goes up must come down. As indicated in the chapter on HISTORY the theory of cycle after cycle of rise and decline—or even the notion that the golden age is past that it is never to be regained and that things are steadily getting worse—prevails more in the ancient than in the modern world.

The modern exceptions to optimism in the philosophy of history are notably Spengler and to a much less extent Toynbee. But modern pessimism never seems to reach the intensity of the Preacher's reiteration in Ecclesiastes that there is no new thing under the sun and that all is vanity and vexation of spirit. Nor does the modern theory of cycles of civilization even in Vico seem to be as radical as that of the ancients. In his vision of cosmic cycles Lucretius sees the whole world crumbling into atomic dust to be reborn again. Herodotus does not relieve the gloom of his observation that in the life of cities prosperity never continues long in one stay. The eternity of the world means for Aristotle that probably each art and each science has often been developed as far as possible and has again perished.

LEAVING TO THE chapter on HISTORY the discussion of progress so far as it concerns an explicit philosophy of history we shall here deal with considerations of progress as they occur in economics in political theory in the history of philosophy and the whole intellectual tradition of the arts and sciences.

In this last connection the great books play a dual role. They provide the major evidence which on different interpretations points toward opposite answers to the question whether or not there has been progress in the

tradition of western thought. Whatever their readers may think on this subject the great authors having read the works of their predecessors offer their own interpretations of the intellectual tradition. In many cases especially among the modern writers their point of departure—even the conception they entertain of the originality and worth of their own contribution—stems from their concern with a deplorable lack of progress for which they offer new methods as remedies.

Before we enter upon the discussion of economic, political or intellectual progress, it seems useful to distinguish between the *fact* and the *idea* of progress. When men examine the fact of progress they look to the past and find there evidence for or against the assertion that a change for the better has taken place in this or that respect. Two things are involved a study of the changes which have occurred and the judgment—based on some standard of appraisal—that the changes have been for the better. But when men entertain the idea of progress they turn from the past and present and look to the future. They regard the past merely as a basis for prophecy and the present as an occasion for making plans to fulfill their prophecies or hopes. The fact of progress belongs to the record of achievement the idea of progress sets a goal to be achieved.

This distinction seems to be exemplified by the difference between ancient and modern considerations of progress. The ancients observe the fact of progress in some particulars—almost never universally. Thucydides for example in the opening chapters of his *History* contrasts the power and wealth of the modern city states of Greece with the weakness of ancient times. Without commerce without freedom of communication either by land or sea cultivating no more of their territory than the exigencies of life required destitute of capital never planting their land (for they could not tell when an invader might not come and take it all away and when he did come they had no walls to stop him) thinking that the necessities of daily sustenance could be supplied at one place as well as another they cared little for shifting their habitation and consequently neither built large cities nor attained to any other form of greatness.

But Thucydides does not seem to draw from these observations any general idea of progress. He does not concretely imagine a future excelling the Periclean age in the magnitude of its wars and the magnificence of its wealth as that period dwarfs antiquity. He does not infer that whatever factors worked to cause the advance from past to present may continue to operate with similar results. It might almost be said that he does not think about the future certainly he does not think of it as rich in promise. Knowledge of the past, he writes, is an aid to the interpretation of the future which in the course of human things must resemble if it does not reflect it.

Adam Smith's thinking about economic progress represents the contrasting modern emphasis upon the future. In one sense both Thucydides and Smith measure economic progress in the same way though one writes of the wealth of cities the other of the wealth of nations. Both Smith and Thucydides judge economic improvement in terms of increasing opulence the growth of capital reserves the expansion of commerce and the enlarged power in war or peace which greater wealth bestows. But Smith in the spirit of Francis Bacon seeks to analyze the causes of prosperity in order to make them work for further progress. He is the promoter of progress not merely the historian who witnesses the beneficial effect on productivity of an increasingly refined division of labor and of the multiplication of machinery.

To know how these things have operated to bring about the opulence of modern nations as compared with the miserable poverty of primitive tribes or even the limited property of ancient cities is to know how to formulate policies which shall still further expand the wealth of nations. For Smith the study of the means and methods by which economic progress has been made serves to determine the policy which is most likely to ensure even greater increments of progress in the future.

MARX APPEARS TO measure economic progress by a different standard. The transition from the slave economies of antiquity through feudal serfdom to what he calls the wage slavery of the industrial proletariat may be accompanied by greater productivity and vaster accumula-

tions of capital stock. But the essential point for him about these successive systems of production is their effect upon the status and conditions of labor. The *Communist Manifesto* notes respects in which under the capitalist system the supposedly free workingman is worse off than were his servile ancestors. But if economic progress is conceived as the historically determined approach to the final liberation of labor from its oppressors then capitalism represents both an advance over feudalism and a stage in the march to communism.

Each successive economic revolution brings mankind nearer to the goal of the ideal or classless economy. Capitalism creates the proletariat—the revolutionary class which is to be that system's own undoing. The overthrow of the landed aristocracy by the bourgeoisie thus prepares the way for the dictatorship of the proletariat as that in turn liquidates the obstacles to the realization of the perfect communist democracy.

We are not here concerned with the details of this history and prophecy but only with the theory of progress which it involves. In the first place it seems to set an ultimate goal to progress while at the same time it makes progress a necessary feature of what is for Marx as it is for Hegel the dialectic of history. Those who think that the inevitability of progress ought to render progress as interminable as history itself find some inconsistency in this tenet of dialectical materialism as well as in Hegel's notion of the necessary dialectical stages by which the Absolute Idea reaches perfect realization in the German state. *Can progress be the inner law of history and yet reach its goal before the end of time?*

There may be some answer to this question in a second aspect of the theory of progress which goes with a dialectic of history. The progress which the successive stages of history represent resides in the quality of human institutions rather than in the nature of man. If more economic justice or greater political liberty is achieved it is not because the later generations of men are born with a nature more disposed to goodness or virtue but because better institutions have evolved from the conflict of historical forces. If the more according to Marx man's nature is only partly de-

terminated at birth. Part remains to be determined by the social and economic circumstances of his life—by the system of production under which he lives. Hence though institutional progress may arrive at its historical goal with the establishment of the ideal economy it may be possible for further progress to be made throughout the rest of time by the improvement of men themselves when at last their natures can develop under ideal circumstances.

WE HAVE NOTED TWO great issues in the characteristically modern discussion of progress. Is the goal of progress definitely attainable or is its goal an ideal progressively approximated but never realized? Is progress accomplished by the betterment of human institutions or by improvements in the nature of man?

The second question has a critical bearing on the first especially for those who conceive man as infinitely perfectible. It also relates to the problem of the evolutionist whether a higher form of life on earth will evolve from man or whether the future belongs to the progressive development of human nature—biologically or culturally. Darwin is unwilling to admit that man alone is capable of progressive improvement but he does affirm that man is capable of incomparably greater and more rapid improvement than any other animal.

Rousseau on the other hand claims that the faculty of self improvement is one distinction between man and brute which will admit of no dispute. But he also thinks that this faculty is the cause of human decline as well as progress. A brute at the end of a few months he writes is all he will ever be during his whole life and his species at the end of a thousand years exactly what it was the first year of that thousand. While the brute which has acquired nothing and has therefore nothing to lose still retains the force of instinct man who loses by age or accident all that his perfectibility had enabled him to gain falls by this means lower than the brutes themselves.

One other issue concerning progress remains to be stated. It raises the question of freedom or necessity in history. Is progress inevitable in the very nature of the case or does it occur only when men plan wisely and choose well in their

efforts to better themselves or the conditions of their lives?

In his *Idea of a Universal History* and his *Principle of Progress* Kant finds the possibility of progress in man's potentialities for improvement. He regards the realization of this possibility as a work of freedom rather than a manifestation of historical necessity. Political progress may have an ultimate goal—the world republic or federation of states. But this according to Kant's conclusion in the *Science of Right* is an impracticable idea and serves only the regulative purpose of promoting a continuous approximation to Perpetual Peace. Hegel's theory of the progressive realization of the idea of the state in history seems to represent the contrary position on both points. Progress is an historical necessity and it reaches an historic consummation.

THE CONTRAST BETWEEN ancients and moderns with respect to political progress seems to be the same as that which we observed between Thucydides and Adam Smith with regard to wealth. The ancients assert the superiority of the present over the past and even trace the stages by which advances have been made from primitive to civilized conditions. But they do not extend the motion they observe into the future. The moderns look to the future as to a fulfillment without which present political activity would be undirected.

According to Aristotle for example the state is the last stage in the development of social life which begins with the family. When several families are united and the association aims at something more than the supply of daily needs the first society to be formed is the village. The village or tribal community in turn becomes the unit out of which a larger and more truly political community is formed. When several villages are united in a single complete community large enough to be nearly or quite self-sufficient the state comes into existence.

Aristotle sees this development not merely as a progress from smaller and weaker societies to larger and more powerful ones but also as an advance toward the realization of man's political nature. Absolute or despotic government by the eldest natural to the family still persists in the tribe. This is the reason why the Hellenic

states were originally governed by kings because the Hellenes were under royal rule before they came together as the barbarians still are. Not until the domestic or tribal form of government is replaced by political or constitutional government—not until kings and subjects are replaced by statesmen and citizens—is the state or political community fully realized.

But Aristotle does not conceive the development he describes as one continuing into the future. He does not imagine a larger political unity than the city state. ■ Kant is able to envisage a world state as the ultimate formation toward which the progressive political unification of mankind should tend. Though Aristotle recognizes that new institutions have been invented and old ones perfected, his political theory, unlike Mill's, does not seem to measure the goodness of the best existing institutions by their devotion to further progress.

Considering the criterion of a good form of government, Mill criticizes those who separate the maintenance of order or the preservation of existing institutions from the cultivation of progress. Progress includes Order, he writes, but Order does not include Progress. Order is not an additional end to be reconciled with Progress, but a part and means of Progress itself. If a gain in one respect is purchased by a more than equivalent loss in the same or in any other, there is not Progress. Conduciveness to Progress, thus understood, includes the whole excellence of government.

Progress fails to define good government, Mill adds, unless we understand by the term not merely the idea of moving onward, but quite as much the prevention of falling back. The very same social causes are as much required to prevent society from retrograding as to produce a further advance. Were there no improvement to be hoped for, life would not be the less an unceasing struggle against causes of deterioration as it even now is. Politics as conceived by the ancients consisted wholly in this.

Though we no longer hold this opinion, though most men in the present age profess a contrary creed, believing that the tendency of things on the whole is toward improvement, we ought not to forget that there is an incessant and everflowing current of human affairs toward the worse.

According to Mill, the ideally best polity is representative government on democratic principles. By a just distribution of political rights and by the fullest grant of liberties, it serves better than any other form of government to promote the virtue and intelligence of the people themselves. This is the ultimate end of political progress. Inferior forms of government, such as despotic monarchy, may be justified for people as yet unfit for self government, but only if they also work for progress, i.e. if they carry those communities through the intermediate stages which they must traverse before they can become fit for the best form of government.

The whole theory of good government is thus for Mill a theory of progress in which we must take into account not only the next step, but all the steps which society has yet to make, both those which can be foreseen and the far wider indefinite range which is at present out of sight. We must judge the merits of diverse forms of government by that ideal form which, if the necessary conditions existed for giving effect to its beneficial tendencies, would more than all others favour and promote not some one improvement, but all forms and degrees of it.

IN THE FIELD OF THE ARTS and sciences or culture generally, the modern emphasis upon progress seems to be even more pronounced than in the spheres of economics and politics. Lack of progress in a science is taken to indicate that it has not yet been established on the right foundations or that the right method for discovering the truth has not yet been found. Lack of agreement in a particular field is the chief symptom of these defects.

The fact that philosophy has been cultivated for many centuries by the best minds that have ever lived, and that nevertheless no single thing is to be found in it which is not a subject of dispute, and in consequence which is not dubious, leads Descartes to propose his new method. He hopes this may ensure progress in philosophy of the same sort which the new method has in his view accomplished in mathematics. The *Novum Organum* of Bacon seems to be dedicated to the same end of progressively augmenting knowledge in all those

fields in which according to the inventory made in the *Advancement of Learning* of the present state of the sciences no or little progress has been made since antiquity. Similarly Locke, Hume, and Kant insist that a study of the human mind should precede all other studies in order to save men from fruitless disputes concerning matters beyond their capacities for knowledge. They hope thereby to encourage research in areas where progress can be made.

The comparison of different disciplines or subject matters with respect to their progress leads to the condemnation of those which lag behind. The great scientific advances of the 17th century tend to intensify the complaint about philosophy, especially metaphysics. The progress which has been made from the beginning in mathematics and more recently in physics means to Kant that each of these disciplines has found the safe way or the secure path of a science. By comparison metaphysics has not yet even made a beginning. A hundred years later William James is still to say that by comparison with the progress of knowledge in the natural sciences metaphysics belongs to the future.

The notion that any field of learning has attained its full maturity seems to Bacon to be the presumption of those philosophers who seek to acquire the reputation of perfection for their own art. They try to instill the belief that whatever has not yet been invented and understood can never be so hereafter. When ever such belief prevails learning languishes.

By far the greatest obstacle to the advancement of the sciences and the undertaking of any new attempt or departure is to be found in men's despair and the idea of impossibility.

THOUGH THE ANCIENTS do not evidence this presumption of perfection in their arts and sciences, neither do they fret about lack of progress. Nor does the disagreement of minds seem to them to signify an unhealthy condition which requires new and special methods to cure.

The investigation of the truth is in one way hard in another easy, writes Aristotle. An indication of this is found in the fact that no one is able to attain the truth adequately

while on the other hand we do not collectively fail, but everyone says something true about the nature of things, and while individually we contribute little or nothing, the truth by the union of all a considerable amount is amassed. Aristotle puts the intellectual tradition to use by adopting the policy of calling into council the views of those of our predecessors who have declared any opinion on whatever subject is being considered, in order that we may profit by whatever is sound in their suggestions and avoid their errors.

But in the opinion of the moderns the intellectual tradition can also be the greatest impediment to the advancement of learning if it is received uncritically and with undue reverence for the authority of the ancients. The respect in which antiquity is held today, Pascal says,

has reached such extremes in those matters in which it should have the least preponderance that one can no longer present innovations without danger. This is the common complaint of Hobbes, Bacon, Descartes, and Harvey. The reverence for antiquity and the authority of men who have been esteemed great in philosophy have, according to Bacon, retarded men from advancing in science and almost enchanted them.

Harvey agrees with Bacon that philosophers or scientists should not swear such fealty to their mistress Antiquity that they openly and even in sight of all deny and desert their friend Truth. Harvey has a much higher opinion than Bacon of the achievements of antiquity.

The ancient philosophers, he writes, whose industry even we admire, went a different way to work, and by their unwearying labor and variety of experiments searching into the nature of things have left us no doubtful light to guide us in our studies. In this way it is that almost everything we yet possess of note or credit in philosophy has been transmitted to us through the industry of ancient Greece.

His admiration for the ancients does not, however, lead Harvey to rest on their achievements. When we acquiesce in the discoveries of the ancients and believe (which we are apt to do through indolence) that nothing farther remains to be known, then in his opinion we suffer the edge of our ingenuity to be taken off and the lamp which they delivered us to be

extinguished No one of a surety he continues will allow that all truth was engrossed by the ancients unless he be utterly ignorant (to pass by other arts for the present) of the many remarkable discoveries that have lately been made in anatomy

In his own anatomical researches Harvey adopts an attitude toward the work of his predecessors both ancient and recent which remarkably resembles the attitude expressed by Aristotle toward his scientific forebears As we are about to discuss the motion action and use of the heart and arteries it is imperative on us Harvey declares first to state what has been thought of these things by others in their writings and what has been held by the vulgar and by tradition in order that what is true may be confirmed and what is false set right by dissection multiplied experience and accurate observation It is precisely this attitude which Bacon expressly condemns

Bacon sees no genuine method of science but merely a cultivation of opinion in those who prepare themselves for discovery by first obtaining a full account of all that has been said on the subject by others Those who begin in this way it is the judgment of Descartes seldom further Particularly the followers of Aristotle would think themselves happy he says if they had as much knowledge of nature as he had even if this were on the condition that they should never attain to any more They are like the ivy that never tries to mount above the trees which give it support and which often even descends again after it has reached the summit for it appears to me that such men also sink again—that is to say somehow render themselves more ignorant than they would have been had they abstained from study altogether For not content with knowing all that intelligibly explained in their author they wish in addition to find in him the solution of many difficulties of which he says nothing and in regard to which he possibly had no thought at all

Pascal takes a more moderate view We can profit he thinks from a limited respect for the ancients Just as they made use of those discoveries which have been handed down to them only as a means for making new ones and thus happy audacity opened the road to great

things so Pascal suggests must we accept those which they found for us and follow their example by making them the means and not the end of our study and thus try to surpass them by imitating them For what would be more wrong than to treat the ancients with more caution than they did those who preceded them and to have for them this inviolable respect which they only deserve from us because they did not feel a similar respect for those who had the same advantage over them?

MODERN WRITERS SEEM to conceive the law of intellectual progress by an analogy between the mind of the race and the individual mind Where Aquinas says merely that it seems natural to human reason to advance gradually from the imperfect to the perfect adding in the past tense that hence the imperfect teaching of early philosophers was afterwards perfected by those who succeeded them Pascal generalizes the insight and gives it future significance Not only does each man progress from day to day in the sciences but all men combined make constant progress in the universe ages because the same thing happens in the succeeding generations of men as in the different ages of each particular man So that the whole succession of men in the course of so many centuries should be regarded as the same man who exists all ways and learns continually

At this point Pascal applies his metaphor to effect a reversal of the relation between the moderns and the ancients Since old age is the time of life most distant from childhood who does not realize that old age in this universal man should not be sought in the times closest to his birth but in those which are farthest away from it? Those whom we call ancients were really novices in all things and actually belonged to the childhood of man and as we have added to their knowledge the experience of the centuries which followed them it is in ourselves that may be found this antiquity which we revert in others

Whether by accident or borrowing this characteristically modern view of the advance progress confers upon modernity a expressed in similar language by Hobbes and Bacon Though I reverence those men of ancient times writes Hobbes who either have

written truth perspicuously or have set us in a better way to find it out for ourselves yet to the antiquity itself I think nothing due for if we will reverence age the present is the oldest

Antiquity as we call it writes Bacon is the young state of the world for those times are ancient when the world is ancient and not those we vulgarly account ancient by computing backwards so that the present time is the real antiquity

To secure a sound not specious progress in all things of the mind Bacon recommends the

avoidance of two extremes the affectations of antiquity and novelty for antiquity envies new improvements and novelty is not content to add without defacing Since antiquity deserves that men should stand awhile upon it in view around which is the best way the great books of the past can lay the foundations for progress but only if they are properly read

Let great authors therefore have their due Bacon declares but so as not to defraud time which is the author of authors and the parent of truth

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## REFERENCES

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**PAGE SECTION** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS** One or more of the main divisions of a work (such as PART BOOK SECTION) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Mad* BK II [ 65 283] 12d.

**SINGLE REFERENCES** The references are to book chapter and verse. When the King James and Douay versions differ in the title of book or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) *II Esdras* 7 46.

**SYMBOLS** The abbreviation sp call the reader's attention to one or more especially relevant parts of a whole reference. passage signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

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Discussions relevant to the theme of political progress see CONSTITUTION 10 DEMOCRACY 4d 7 GOVERNMENT 6 LIBERTY 6a-6c MONARCHY 4c(2) SLAVERY 5b STATE 2a(3) TYRANNY 8 and for the distinction between utopian and practical ideals as goals of political progress see CITIZEN 8 STATE 6 10f WAR AND PEACE 11d

Attitudes toward change which have a bearing on progress see CHANGE 12b CUSTOM AND CONVENTION 8 TIME 7

Evidences of progress in the arts and sciences and for the comparative progress of different fields of learning see ART 12 KNOWLEDGE 10 PHILOSOPHY 7

The conditions on which intellectual progress depends see KNOWLEDGE 9b LANGUAGE 6 OPINION 5b SCIENCE 6a-6b SIGN AND SYMBOL 4c TRUTH 6 8d

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups

I Works by authors represented in this collection

II Works by authors not represented in this collection

For the date place and other facts concerning the publication of the works cited consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*

### I

SWIFT *The Battle of the Books*

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## II

VIO *The New Science*

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— *Optimism in A Philosophical Dictionary*

FERGUSON *An Essay on the History of Civil Society*

PART II

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— *The Education of the Human Race*

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— *System of Positive Polity* VOL III *Social Dynamics*

LOTZ *Microcosmos* BK VIII

J HENRYMAN *An Essay on the Development of Christian Doctrine*

— *Callista*

SPENCER *Progress Its Law and Cause*

BACON *Physics and Politics*

S BUTLER *Ehonor*

GEORGE *Progress and Poverty*

T H HUXLEY *Methods and Results* 1-II

MAINE *Ancient Law*

— *Popular Government* III

BELLAMY *Looking Backward*

FRAZER *The Golden Bough* PART I CH 3 5 RT II

CH 7 PART VII

SUNDER *The Absurd Effort to Make the World Over*

JENSEN *The Long Journey*

SOREL *Les Illusions du Progrès*

II RUSSIA *Proposed Roads to Freedom* CH 4-8

SENLER *The Decline of the West*

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WHITEHEAD *Science and the Modern World* CH 3

WELLS *The World of William Clissold*

DAWSON *Progress and Religion*

MELIVER *Society Its Structure and Changes*

SHAW *Back to Methuselah*

— *Doctors and Lunatics*

A J TOYNBEE *A Study of History*

MARITAIN *Theonas Conversations of a Sage* -

VIII X

— *True Humanism*

— *Scholasticism and Politics* CH 9

SMITH *Community of the Free* CH 3



## Chapter 72 PROPHECY

### INTRODUCTION

THE name of prophet signifies throughout a great part of the western tradition an eminence and dignity not shared by the scientist the philosopher the statesman or even the sage. The soothsayer and the seer in pagan antiquity and the prophet of the Lord in Israel do not claim to speak from a merely human wisdom or to declare truths they have learned by inquiry or reflection. Nor are their utterances concerned with the nature of things. The prophet claims to know what men cannot know by any exercise of human powers. He enjoys special gifts. He is divinely inspired. He is instructed by God or has in some way been admitted to the secrets of the gods. His knowledge is not only of supernatural origin; it deals with supernatural matters.

Prophecy is more than a prediction of the future. It unveils what Fate holds in store for men; it foretells the course of providence. In most cases the future predicted has deep moral significance, expressing the pleasure or displeasure of the gods with individuals or nations, or manifesting God's justice in the rewards promised those who keep His commandments and the punishments awaiting those who break them. The prophet's foresight discerns more than the future; it discovers what men can hope for or must fear according to what they merit, not in the eyes of men but in the sight of God.

This understanding of prophecy seems to be involved in the major issues which the great books raise about prophets. For example, the problem of distinguishing between true and false prophets goes beyond the mere truth or falsity of a prophet's utterances to the validity of his claim to special sources of knowledge or a supernaturally inspired understanding of dreams and visions, omens and portents. The false prophet is not like the mistaken scientist or philosopher—just a person in error. He is either a

deceiving impostor or a self-deceived victim of his own pathology.

Similarly, the Christian theologians who criticize the pagan cult of oracles and all forms of divination which seek to pry into divine mysteries seem to imply that the seers and soothsayers of Greece and Rome, unlike the Hebrew prophets, did not have the gift of prophecy. The acceptance or rejection of prophets and of ways of foreseeing what has been planned in Heaven cannot itself be separated from a whole system of religious beliefs. In this respect, prophets are like miracles. Without faith, both are incredible. There are two marks, writes Hobbes, by which together not asunder a true Prophet is to be known. One is the doing of miracles; the other is the not teaching any other religion than that which is already established. In Hobbes' view that there be a religion already established among a people is the one indispensable condition for their reception of prophets or their experience of miracles.

Issues concerning prophecy may therefore occur within a single religious community or be relative to differences between religious communities, as for example the opposition between the Jewish and Christian interpretation of the messianic prophecies in the Old Testament. Necessarily then there is an issue between the unbelievers and the religious of any faith. Those who deny the existence of God or the gods, or divine agency in the temporal affairs of men, and certainly those who deny the credentials of revelation, cannot but regard prophets as misled and misleading, and those who accept prophecy as genuine or superstitious. In the pagan tradition a philosopher like Aristotle may, however, be of value of divination, and an historian like Thucydides may cast doubt on oracles without discredit.

ing all other religious beliefs or being themselves atheists

Some who reject religious prophecy do not concede that man's natural desire to peer into the future need be completely balked. But the secular substitutes for religious prophecy appear to alter the meaning of prophecy. Scientific predictions of the future of the world or of life on this planet (as for example those which occur in the writings of Lucretius or Darwin) may be accompanied by attributions of moral qualities to Nature but usually they connote Nature's sublime indifference to man's welfare. They are seldom if ever read as promises or threats of what man deserves to have befall him.

Similarly historians turned prophets or philosophers of history who like Spengler prophesy decline and doom do not exhort men to avert disaster as do the prophets of the Old Testament. Nor do those who like Hegel and Marx foresee the ultimate goal toward which events inevitably march urge men to prepare themselves for it as do the prophecies of the New Testament which speak of the second coming of Christ. Secular prophecies which bespeak the inevitable operation of necessary causes are in this respect like pagan provisions of Fate. At most they leave man only the illusion of free choice. Jewish and Christian prophecy in contrast addresses man as a responsible agent who even when he knows something of God's will remains free to will good or evil for himself. If according to the theologians divine providence or predestination does not abolish human freedom neither does prophetic knowledge of the divine plan.

These matters are discussed elsewhere—secular prophecy in the chapters on HISTORY and PROGRESS and the problem of *freedom* *leisure* and freedom in the chapters on FATE and NECESSITY AND CONTINGENCY.

IN PAGAN ANTIQUITY prophecy does not seem to be confined to men especially appointed by the gods. The gods themselves foretell the future to men. When people wish to know the future they go or send emissaries to the temple at Delphi over which a goddess, the Pythoness, presides. The institution of the oracles of which Delphi is perhaps the most illustrious

example leaves foresight in the hands of the gods for as most of the anecdotes in Herodotus and Thucydides show only the Pythoness herself knows unequivocally the meaning of her oracular utterances.

To men is left the task of interpreting what the oracle means. The pagan unlike the Hebrew prophet seems to be a man of skill in penetrating the secrets of the gods—a skill which may itself be divinely bestowed—but he is not a man to whom the gods have spoken plainly so that he may in turn unerringly advise others. No man when in his wits according to Plato attains prophetic truth and inspiration.

There are passages in the Greek poets and historians which seem to suggest that the gods begrudge men too clear a vision of the future and may even on occasion mislead them or at least permit them to be misled. In Aeschylus' play Prometheus declares that because he gave to men gifts claimed by the gods he is bound in duration here. He gave them radiant fire the mechanical arts he took from men the expectancy of Death he gave them medicines and healing drugs. Last in his *en* *enu* *meration* and in a sense most significant he endowed men with the divine gift of foresight.

I drew clear lines for divination Prometheus says and discerned (before all others) what from dreams is sure to come to pass in waking. I disclosed the mysteries of omen bringing words and pathway tokens and made plain the flight of taloned birds both of good augury and adverse. I cleared the way for mortals to an art hard of discernment and made bright and clear fire-auguries heretofore obscure and blind. The chorus questions whether the power of creatures creeping for an hour shall by wisdom overpass the bounds set for their *little* *lives* by the mind of Zeus. Does the wisdom of foreknowledge gained through the arts of divination give men strength to resist the will of the gods or to struggle against them?

Prometheus himself is the answer to the question. The power he wields over Zeus which Zeus tries to wrest from him by bribes and threats and by the infliction of titanic pain is the foreknowledge which Prometheus possesses of the doom to befall the son of Kronos. No threat of Zeus will get him to divulge its

Prometheus says because nought can surprise me who foreknow Nought in his power shall bend me to reveal whom Fate prepares to work his overthrow

A myth which Socrates relates in the *Gorgias* appears to contain a sequel to the legend as told by Aeschylus. It also seems to confirm the point that foresight is a divine privilege in which men should not share lest they become too god like. According to the myth Zeus in order to prevent men from evading the divine judgment says In the first place I will deprive men of the foreknowledge of death this power which they have Prometheus has already received my orders to take from them

The oracles never make the future so plain that men can act with a foreknowledge equal to that possessed by the gods but sometimes oracular utterances seem to be contrived not merely to veil the future but to lead men astray. Herodotus tells the story of Miltiades who on the advice of Timo a priestess of the goddesses of the underworld acted in a way which brought him to grief. When the Persians sent to Delphi to ask whether Timo should be punished for this the Pythoness forbade them saying Timo was not at fault it was decreed that Miltiades should come to an unhappy end and she was sent to lure him to his destruction.

There is also the story told by Thucydides of Cylon who inquiring at Delphi was told to seize the Acropolis of Athens on the grand festival of Zeus. This too turned into a disastrous misadventure apparently because as Thucydides observes whether the grand festival that was meant was in Attica or else where was a question he never thought of and which the oracle did not offer to solve.

For the most part however the calamities which befall men who seek guidance from the oracle seem to be due to their own misinterpretation of the Delphic deliverance itself always admittedly difficult to understand. Herodotus and Thucydides abound with such stories and also with instances in which the same oracular statement is given conflicting interpretations one of which must be wrong. Nevertheless Herodotus declares himself unwilling to say that there is no truth in prophecies and he is certainly not willing to question those which speak with clearness. Giv-

ing an example of a clear prediction he adds When I look to this and perceive how clearly Bacis spoke I neither venture myself to say anything against prophecies nor do I approve of others impugning them

Thucydides appears to take a contrary view. He singles out one example as an instance of faith in oracles being for once justified by the event. He puts into the speech of the Athenians at the Melian Conference the warning not to be like the vulgar who abandon such security as human means may still afford when visible hopes fail them in extremity turn to invisible prophecies and oracles and other such inventions that delude men with hopes to their destruction.

THE PROBLEM OF THE reliability of prophecies and of the faith or credulity of those who rely upon them applies not only to oracles but also to dreams or visions and to omens and portents of all sorts. Two stories about Croesus told by Herodotus show that oracles and dreams can be equally ambiguous and are equally liable to misinterpretation. Croesus dreamed that his son Atys would die by the blow of an iron weapon. Subsequently when Atys wished to go boar hunting with Adrastus he persuaded Croesus that the dream could not have been a warning against this undertaking because a boar does not have hands to strike with nor does it wield iron weapons. But during the hunt Atys was killed by the spear which Adrastus intended for the boar.

On another occasion Croesus inquired of Delphi how long his kingdom would last. The Pythoness answered in effect until a mule is monarch in Media. This not only pleased him because it seemed incredible to him that a mule should ever become king of the Medes but also gave him confidence when he engaged in war with the Medes and Persians led by Cyrus. The war ended in his defeat and capture but according to Herodotus he had no right to complain of the oracle because he had misinterpreted the answer which had been given him about the mule. Cyrus was that mule for the parents of Cyrus were of different races and of different kinds — his mother a Median princess his father a Persian subject.

The attitude of the ancients toward these

various instruments of prophecy or divination does not seem to be consistent or constant Herodotus reports at one place how Xerxes despising the omens carried out his plans against their forebodings and at another how an eclipse of the moon being interpreted as of good omen rejoiced Xerxes who thus instructed proceeded on his way with great gladness of heart And again when Xerxes reports to Artabanus the advice—concerning his war against the Greeks—which he received from a dream apparition Artabanus scoffs saying Such things my son have of truth nothing divine in them Whatever a man has been thinking of during the day is wont to hover round him in the visions of his dreams at night But when Artabanus himself experiences the same apparition which had occurred to Xerxes in his dream and in addition is giving the same advice the vision threatens him Artabanus changes his mind about dreams and reverses his policy with regard to the expedition against Greece

As to the divination which takes place in sleep and is said to be based on dreams Aristotle writes we cannot lightly either dismiss it with contempt or give it implicit confidence Nevertheless he himself seems to conclude that most so called prophetic dreams are to be classed as mere coincidences and that dreams are not sent by God nor are they designed for this purpose *sc* foretelling the future One proof that they are not sent by God is in his opinion the fact that the persons having them are not the best and wisest but merely commonplace persons The fact that the power of foreseeing the future and of having vivid dreams is found in persons of inferior type implies that God does not send them

THE CHRISTIAN THEOLOGICIANS distinguishing between prophecy and divination condemn the latter as a kind of presumption or impiety Though their criticism seems to be directed especially against astrology it applies to the interpretation of terrestrial as well as celestial signs Augustine refers to the lying divinations and impious dotages of the astrologers and Aquinas explains how the astrologers are able to foretell things in a general way without

attributing to them any genuinely prophetic power

In his consideration of the difference between true and false religion Hobbes goes further than the theologians in condemning the innumerable other superstitious ways of divination such as the ambiguous or senseless answers of the priests at Delphi Delos Ammon and other famous oracles or the prediction of witches that pretended conference with the dead which is called necromancy conjuring and witchcraft and is but juggling and confederate knavery or in general the recourse to omens portents and dreams for purposes of prognostication

That the things Hobbes calls superstitious are not confined to pagan antiquity is manifest in Shakespeare's *Macbeth* The witches and the omens there are like the soothsayers and the portents in *Julius Caesar* and *Macbeth*'s misunderstanding of the Birnam Forest come to Dunsinane is as fatal as Croesus' reliance on a mule as monarch in Media

In one other respect pagan and Christian cultures seem to exhibit a certain parallelism with regard to the belief in supernatural foreknowledge The spirits of the departed in the *Odyssey* and the *Aeneid* are able to inform the visitor to the underworld of coming events on earth They speak plainly and with perfect prescience The veil which hides the future from mortal eyes has been lifted So too the damned souls and the blessed foretell future things to Dante no less accurately though less extensively than in *Paradise Lost* the arch angel Michael unfolds to Adam the whole future history of mankind

But so far as the foreknowledge of mortal men is concerned the Hebrew prophets seem to be unique Unlike pagan diviners or soothsayers they do not probe the future in order to help men anticipate the turns of fortune or the lines of fate They do not have to employ arts or devices for penetrating divine secrets God speaks to them directly and through them to the Chosen People For the most part their prophetic speeches unlike those of the oracles seem to be unambiguous At least the intention seems to be to reveal not to conceal God's plan on such matters as He Himself wishes men to foresee the course of providence

Where pagan prognosticators may claim to be divinely inspired in the sense of having special powers of interpretation the Hebrew prophets speak from a different kind of supernatural inspiration. They are the vessels through which the Lord Himself speaks. They are interpreters only in that they make known to others what God has made known to them.

The content of the divine communication is seldom exclusively a foretelling of the future. It is often accompanied by instruction concerning the actions to be performed by the Jewish people—the direction of their conduct toward the Promised Land or the rebuilding of the Temple. Sometimes when the prophecy is one of doom rather than of hope as in the case of the destruction of Jerusalem the Babylonian captivity or the dispersion of Israel the prediction of the future is accompanied by moral instruction of another sort—the lessons of the Law which the Jews have forsaken meriting thereby the punishments the prophets foresee.

Mere prognostication does not seem to be the chief purpose of Hebrew prophecy. Just as the Covenant which God makes with Abraham Isaac and Jacob consecrates the Jewish people to a special mission just as the Law which God hands down through Moses sets them apart from the Gentiles and prescribes for them the way of righteousness and sanctity so the revelations of God's providence through the prophets tend to remind the Chosen People of the meaning of the Covenant and the Law as well as to disclose their destiny as a nation.

The prophets speak not only of the future but of the present and the past. They are divinely appointed teachers no less than the patriarchs and Moses. Yet they may rank below Moses (who is sometimes also regarded as a prophet) by reason of the manner in which they are addressed by God. As Hobbes points out

God himself in express words declareth that to other prophets he spake in dreams and visions but to his servant Moses in such manner as a man speaketh to his friend—face to face.

The content of Hebrew prophecy in short seems to be continuous with the rest of God's revelation of Himself to His Chosen People. The difference between the prophets as the instruments of God's teaching and the pagan philosophers as merely human teachers seems to

Augustine plainly shown by the agreement of the prophets with one another and by their continuity with Moses and the patriarchs whereas Augustine can find nothing but disagreement and dissension among even the best teachers of the pagans. Among them false teachers or prophets seem to be accorded the same recognition and to attract the same following as true.

But that nation Augustine writes that people that city that republish these Israelites, to whom the oracles of God were entrusted by no means confounded with similar license false prophets with the true prophets but agreeing together and differing in nothing acknowledged and upheld the authentic authors of their sacred books. These were the philosophers these were their sacred prophets and teachers of probity and piety. Whoever was wise and lived according to them was wise and lived not according to men but according to God who hath spoken to them.

Hobbes also conceives the prophets of the Old Testament as more than foretellers of the future. The name of prophet he writes signifies in Scripture sometimes *prolocutor* that is he that speaketh from God to man or from man to God and sometimes *predictor* or a foreteller of things to come. In addition to their being divinely appointed teachers the prophets according to Hobbes seem to perform a political function. They check the power of the kings or seek to awaken their consciences to the dictates of justice and mercy. Through the whole history of the kings as well of Judah as of Israel there were prophets that always controlled the kings for transgressing the religion and sometimes also for errors of state.

A secular view of the Hebrew prophets seems to give prominence to their political role in the theocratic community of the Jews. Comparing the Jewish state with other sacerdotal societies, Mull observes that neither their kings nor their priests ever obtained as in those other countries the exclusive moulding of their character. Their religion gave existence to an inestimably precious unorganized institution—the Order (if it may be so termed) of the Prophets. Under the protection generally though not always effectual of their sacred character the Prophets were a power in the nation often

more than a match for kings and priests and kept up in that little corner of the earth the antagonism of influences which is the only real security for continued progress

AS THERE IS A BODY of prophetic doctrine in the Old Testament so the religion of the Gospels contains a number of prophetic beliefs peculiar to Christian doctrine. Such for example is the prophecy of the second coming of Christ the prophecy of the Last Judgment on that occasion and the prophecy of a final conflagration to cleanse the world which will precede the resurrection of the body as that in turn precedes the general judgment of souls.

Aquinas discusses the various signs which will foretell the imminence of these events. He also raises the question whether the time of the end of the world and of the resurrection can be known exactly. On this he agrees with Augustine that that time is hidden from men. It cannot be calculated by natural reason nor is it revealed. Of that day and hour it is written in Matthew: no one knoweth, no not the angels of heaven. When the apostles asked Christ about His second coming He answered according to Saint Paul: It is not for you to know the times or moments which the Father hath put in His own power.

What Christ refused to tell the apostles Aquinas adds, He will not reveal to others. Wherefore all those who have been misled to reckon the aforesaid time have so far proved to be untruthful for some as Augustine says stated from our Lord's ascension to His last coming 400 years would elapse others 500 others 1000. The falseness of these calculators is evident as will likewise be the falseness of those who even now cease not to calculate.

The single greatest prophecy in the Judeo-Christian tradition is perhaps the messianic prophecy—the foretelling of a Messiah or of a messianic age. The prediction of a Messiah or Saviour who shall be born of the house of David and shall be king of the Jews runs throughout the prophetic books of the Old Testament though with different degrees of explicitness and varying imagery in Daniel and Jeremiah in Isaiah and Ezekiel.

The Lord himself shall give you a sign says Isaiah. Behold a virgin shall conceive and

bear a son and shall call his name Immanuel. For unto us a child is born unto us a son is given. Isaiah goes on and the government shall be upon his shoulder and his name shall be called Wonderful Counsellor The mighty God The Everlasting Father The Prince of Peace. Of the increase of his government and peace there shall be no end upon the throne of David and upon his kingdom to order it and to establish it with justice from henceforth even for ever. And Jeremiah tells his people: Behold the days come saith the Lord that I will raise unto David a righteous Branch and a king shall reign and prosper and shall execute judgment and justice in the earth. In his days Judah shall be saved and Israel shall dwell safely.

Two of the great issues between the Jewish and Christian faiths concern these messianic prophecies in the Old Testament. One arises from opposite interpretations of the event predicted—a messianic age in which the kingdom of the Jews will be established on earth in perpetual righteousness and glory or the coming to earth of God's only begotten son incarnate in human form for the salvation of all mankind. The other arises from opposite answers to the question whether the prediction—on either interpretation—has been fulfilled.

It is of course the Christian view that the prophets foretold the coming of Christ and that their prophecy has been fulfilled. But more than that Christian apologists and theologians seem to make the fulfilment of Hebrew prophecies interpreted as foreshadowing the truths of the Christian religion a source of verification for these truths.

The difference between Jesus Christ and Mahomet according to Pascal is that Mahomet was not foretold. Jesus Christ was foretold. I see many contradictory claims and consequently all false save one he writes. Each wants to be believed on its own authority and threatens unbelievers. I do not therefore believe them. Everyone can say this everyone can call himself a prophet. But I see the Christian religion wherein prophecies are fulfilled and that is what everyone cannot do.

And in another place Pascal declares that the prophecies are the strongest proof of Jesus Christ. If one man alone had made a book of predictions about Jesus Christ as to the time

and manner and Jesus Christ had come in conformity to these prophecies this fact would have infinite weight. But there is much more here. Here is a succession of men during four thousand years who consequently and with out variation come one after another to foretell this same event.

Centuries earlier Augustine writes in a similar vein. The Hebrew people as a whole are chosen to perform this prophetic function—to foretell sometimes through men who understood what they spake and sometimes through men

who understood not all that has transpired since the advent of Christ until now and all that will transpire. Not only the explicit prophecies which are contained in words, but all the rituals and ceremonies the offices and institutions of the Jewish religion prefigure Christianity signifying and fore-announcing those things which we who believe in Jesus Christ unto eternal life believe to have been fulfilled or behold in process of fulfillment or confidently believe shall yet be fulfilled.

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passage referred to. For example in 4 Ho *Isa* d BK vi [26, 83] 12d the number 4 is the number of the volume in the set; the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 J *Isa* *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page; the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 P *Acto* *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR DIVISIONS.** One or more of the main divisions of a work (such as PART, BOOK, CHAPTER) are sometimes included in the reference line numbers in brackets are given in certain cases. e.g. *Isa* d BK i [26, 83] 12d.

**BIBL. REFERENCES.** The references are to book, chapter and verse. When the King James and Douay versions differ in title of book or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follow. e.g. OLD TESTAMENT *Nehemiah* 7:45—(D) *II Esdras* 7:46.

**SYMBOL.** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference passage signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the reference see the Explanation of Reference Style for general guidance in the use of *The Greek Text*; consult the Preface.

## 1 The nature and power of prophecy

## 1a Prophecy is the endowing of the foretelling of fortune the beholding of the future

4 Ho *Isa* d BK xvi [343 861] 121c BK xvi [94 137] 131a-c BK xii [355 366] 159a / *Odyssey* K v [487-540] 241a BK xi [90-37] 244a-c BK xiv [321 336] 263b-c BK v [291 307] 292b

5 Aeschylus *Persians* [739-842] 23a 24b / *Seven Against Thebes* [1 38] 27a / *Prometheus Bound* [88 114] 41 b [9 7-94] 49d 02a / *Agamemnon* [104 159] 53a d [248 254] 54d [ 7 342] 63c 66b

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9 Aristotle *Rhetoric* BK i CH 15 [ 375<sup>b</sup> 3] 1376<sup>a</sup>] 620c

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13 Virgil *Eclues* v 14a 13b / *Aeneid* BK i [223 304] 109 111a BK viii [6 8-73] 275a 278b

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- 12 LUTETIUS *Nature of Things* BK VI [43-55]  
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- 12 EPICTETUS *Discourses* BK I CH 17 122d  
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- 13 VIRGIL *Aeneid* BK I [387 401] 113b 114a BK  
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- 14 PLUTARCH *Romulus* 19b 20c / *Numa Pompilius* 52b c / *Poplicola* 80b d 82a b / *The  
mis to les* 94d / *Caninius* 103b 104a / *Peric-  
leon* 198 d 207c d / *Aemilius Paulus* 214b d  
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- 15 TACITUS *Annals* BK I 9a b 9d BK II 27b  
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- 17 P OYINUS *Se ond Enne d* T I I CH 7 44c  
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- 18 AUGUSTINE *Confessions* BK IV [14-6 20a d  
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- 19 AQUINAS *Summa Theologica* PART I Q 70  
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- 21 HOBBS *Leviathan* PAR I 80 d 81d 82b  
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- 24 RABELAIS *Gargantua and Pantagruel* BK II  
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- 25 MONTAGNE *Essays* 18d 20d 223d 224a
- 26 SHAKESPEARE *3rd Henry VI* ACT V SC I  
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- [7 17] 334c d / *Julius Caesar* ACT I S I  
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- 27 SHAKESPEARE *King Lear* ACT I SC II [1  
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- 29 CERVANTES *Don Quixote* PART II 381a b
- 30 BACON *Advancement of Learning* 14b-c 54-  
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- 32 MILTON *Paradise Lost* BK I [594-599] 100b  
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- 33 PASCAL *Pensees* 173 203b 04a
- 35 LOCKE *Human Understanding* BK IV CH II  
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- 36 STERNE *Tristram Shandy* 332a 334b
- 40 GIBSON *Decline and Fall* 3c 457d 547a b  
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- 41 GIBSON *Decline and Fall* 232a c
- 46 HEGEL *Philosophy of History* PART II 265d  
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- 47 GOETHE *Faust* PART II [4947 49] 6] 122b  
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- 48 MELVILLE *Moby Dick* 121a 175b 179a  
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- 51 TOLSTOY *War and Peace* BK VI 259c d 340d  
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341a c BK IV 377b 379a BK X 428a 429a
- 54 FREUD *General Introduction* 467a b

3c Dreams visions visitations

- OLD TESTAMENT Genesis 167 13 18 1-15  
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28 10 22 31 11 13 24 32 24 32 35 9-13  
37 1 11 40 41 / *Numbers* 12 5-8 22 12 30  
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7 13 15 13 / *I Samuel* 28 6-2 —(D) I f 8  
28 6- / *II Samuel* 7 4 17—(D) II Kings  
7-4 17 / *I Kings* 3 5 15 9 1-9 19 2-8 21  
23—(D) III Kings 3 5 15 9 1-9 19 2-8  
22 17-23 / *II Kings* 1 3 4 5—(D) IV Kings  
1 3 4 15 / *I Chronicles* 21 15 20 28 30 / *II Chroni-  
cles* 18 11 2—(D) II Paralipomenon 18 11  
2 / *Ester* 10—(D) *Ester* 10 1 3 / *Job* 4 13  
21 33 14 16 / *Lisaiah* 6—(D) *Isaiah* 6 / *Jerem-  
iah* 14 14 23 16 25 32 4 29 8-9—(D)  
*Jeremiah* 14 14 3 6 25 32 24 25 9-4 /  
*Ezekiel* 1 3 8 11 37 11 40-48 / *Daniel*  
2 4 12 passim / *Joel* 2 28 29 / *Zechariah*  
1 7-6 15—(D) *Zachari* 1 7-6 15 —(D) OT
- APOTYPIA Rest of *Ester* 10 4 11 12—(D) OT  
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18 14 19—(D) OT *Book of Wisdom* 1  
18 14 19 / *Ecclasiastus* 34 1 7—(D) OT  
*Ecclasiastus* 34 1 7 / *Bel and the Dragon* 33 38  
—(D) OT D 1 14 32 38 / *II Maccabees*  
15 11 16—(D) OT II *Maccabees* 15 11 16  
NEW TESTAMENT *Matthew* 1 20-25 2 12 13 19  
23 17 1-8 28 -7 / *Mark* 9 1 10 / *Luke*  
1 11-38 2 8 5 9 28 43 24 1 10 / *Acts* 2 1  
18 9 3-8 1 18 9-1 / *II Corinthians* 12 1  
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- 4 H IER *Isa* BK I [59-67] 3d K II [1-83]  
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- 5 Aeschylus *Persians* [176-230] 17a d / *Seven  
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- 5 SO HOEL *Electra* [405-515] 159b 160a  
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- 5 EURIPID *Trojan Women* [308 461] 272d  
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- 5 ARIST IAN *Knights* [1090-1095] 483c d
- 6 HERODOTUS *History* K I 8a 10a 25b 31a  
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116a b BK IV 126d 127a 154c d 155b-c  
BK V 170c d BK VI 196d 197a 205d 206a  
208b 211a BK VII 218b 220b BK VI I  
274b-c 276b-c
- 7 PLATO *Euthydemus* 66a b / *Apology* 207b c  
211a b / *Crity* 213b-d / *Timaeus* 466d 467c
- 8 AR STOTL *Prophesying* 707a 709a c
- 12 LUCRETII *Nature of Things* BK [102 1 6]  
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- 13 VIR IL *Aeneid* K III [132 191] 150b 152b  
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- 14 P UTARCH *Themistocles* 98d 99a / *Alcibiades* a  
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Wars* 239d 240 / *Pyrrhus* 268a d / *Pyrrhus*  
329 d / *Cimon* 392b c 398d 399b / *Lysicles*  
405c 411a b / *Eumenes* 473a b / *Agathocles*  
483a b / *Pompey* 514d 515 532b  
534d 535a / *Alexander* 548d 549a / *Cassius*  
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782a 801b / *Marcus Brutus* 816d 817c
- 14 TACITUS *Annals* BK I 26c BK XI 101b c  
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*Historiae* BK IV 293a 294a
- 18 AUGUSTIN *Confessions* K III par 19 o  
18b-19 / *City of God* BK V I CH 16 275c  
276a BK XI CH 323 c
- 19 AQUINAS *Summa Theologiae* PART I Q 12  
A II AN 59d 60d Q 86 A 4 REP 2463d 464d
- 20 AQUINAS *Summa Theologiae* ART I Q 7  
A 8 R I 750d 751d
- 21 D N E *De Comedie* FELL VXX [13-75]  
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- 22 C U ER T *Luxury of Ceres* d K V TANZA  
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5 ANZ 2 7-2 9 147 149a T N A 245 152 /  
N S Pr St T L [14 97-15 63] 452b 455b
- 23 H B *Lectiones* P RT I 51d 52a 69d 70c  
PART II 173 1 6d 177b 184 187 CON  
CLU ON 281d 28 e
- 24 RA ELAIS *Gogmagog* d P tagru l bh  
150d 156c BK V 278d

- 26 SHAKESPEARE *2nd Henry VI* A T I SC II  
[17 55] 36 37a SC IV 40a 41a / *Romans* and  
*Julius Caesar* ACT I SC IV [44 114] 291a d / *Mid  
summer Night's Dream* ACT II SC II [145 156]  
360b-c / *Julius Caesar* ACT II SC II [75-90]  
578d 579a ACT IV SC III [275 89] 591c  
ACT V S V [16-19] 595b
- 27 SHAKESPEARE *Hamlet* ACT I SC I 29a 31c /  
*Macbeth* A T I SC III 285b 287b A T III SC  
V 299b d ACT IV SC I 300b-302b ACT V SC  
VIII [6-2] 310b / *Cymbeline* ACT V SC IV  
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- 30 BACON *Advancement of Learning* g 8c 54d  
55a 55c
- 32 MILTON *Paradise Lost* BK V [28 1 8] 176a  
178 [469-5] 185b 186a K V I [283-336]  
238b 239b K XI [193]-BK XII [649] 303b-  
333a / *Opuscula* 389a b
- 37 F LUDING *Tom Jones* 162b 163a
- 40 G O *Decline and Fall* 189b = 294d 296b
- 46 HEGEL *Philosophy of History* PART I 244d  
ART II 264d 265b
- 47 G O *The Faust* PART II [1 384-401] 277a b
- 51 T O STOT *War and Peace* BK VII 300c 301b  
BK XII 546a d 561b 562a
- 52 DOSTO V KY *Brother Karamazov* BK V  
127b-137c pass m
- 54 F UO *Organs and Development of Psychology*  
4 *Allyns* 11c / *Interpretation of Dreams* 137c  
138 = 178b c 179d [in 2] 387a = / *General  
Introduction* 477b d

## 3d Prophecy by the direct word of God

- O D TESTAMENT Gen 2 6 17 38 9 4 6-  
15 6 3 7 13 21 7 5-4 8 2 9 7 1 6-  
7 12 = 1 14 18 5 17 8 17 21 1  
3 26 1-5 24 35 9 13 / *Ezekiel* 3 4 2 6 -  
8 30 7 2 p ssm 16 4-5 = 75-  
6 4 19 3-20 22 32 9-4 30-34 33 1-34 7 /  
*Numbers* 5-8 14 14 1 12 20-35 / *Du  
teronomy* 4 0-15 36 5 31 14 21 / *Joshua*  
1 1-9 3 7-8 4 1-3 6 1 5 8 10 8 (D)  
*Joshua* -9 3 7-8 4 1 3 6 1-5 8 10 8  
/ *I Samuel* 13 6 13- (D) / *I Kings* 3 16 1-  
3 / *I Kings* 6 19 9-18- (D) / *III Kings* 19 9-18  
/ *I Isaiah* 6 48 2 5- (D) / *Isaiah* 6 48 2-5 /  
*Jeremiah* h - (D) / *Jeremiah* s / *Ezekiel* 1 39  
pass m esp - (D) / *Ezekiel* h 1 39 pass m p  
2 / *Hosea* 1 3- (D) / *Osee* -3 / *Amos* 7-9  
N W TESTAMENT *Matthew* 17 1-9 / *Acts*  
6 13 8  
18 AU U TINE *City of God* BK XI CH 3 323d  
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444b CH 38 445a-446a
- 19 AQUINAS *Summa Theologiae* PART I Q 12  
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- 23 HO S *Lexham* PART 165d 166  
183d 184 CONC U ON 281d 282a
- 32 MILTON *Paradise Lost* A X I [6-5]  
321b 322b [173 269] 323 325
- 52 D O T O V KY *Bethers* Kar m kov K V  
127b 137c

## 4 Particular prophecies of hope and doom

## 4a The Covenant and the Promised Land

OLD TESTAMENT *Genesis* 9 8 17 12 17 13 14  
18 15 17-18 2 1 19 26 1-6 24 25 28 11-  
22 35 9-13 / *Exodus* 2 23 3 22 6 2-8 19 4-  
6 20 1 17 32 11 14 33 1 3 34 10 11 / *Levi-*  
*cus* 26 40-45 / *Numbers* 14 6-9 32 34 1 12  
/ *Deuteronomy* 1 7 8 19-31 3 16-23 4 12  
13 23 40 5 6 1 3 10-11 18 19 7 12 13 8 7  
10 18 20 9 1 6 23 29 10 1 11 26 1 11  
27 32 esp 27 3 28 1 24 29 1 29 3 16 20  
34 1 4 / *Joshua* esp 1 23 1 24 13—(D) *Josue*  
esp 1 23 1 24 13 / *Judg* 2 1-6 / *I Kings* 8 56  
—(D) *I Kings* 8 56 / *I Chronicles* 16 13 22  
—(D) *I Pa al pomem* 16 3 22 / *N hem ah*  
9—(D) *II Eid a* 9 / *Psalms* 74 19 20 78 1  
75 2-55 105 6 44 111 132—(D) *Psalms*  
73 19-20 77 1-7 52 55 104 6-44 110 131  
/ *Iia ah* 54 1 10 56 4-6 59 20 21 61 7 9  
—(D) *I a n* 54 1 10 56 4-6 59 20-21 6 7  
9 / *Ier mah* 11 1 10 31 31 34 34 12 18—  
(D) *J em a* 1 1 20 31 31 34 34 12 18 /  
*E k l* 1 660 63 37 26-28—(D) *Ez h l*  
16 6 63 37 26-28 / *Ho en* 2 16-28 6 4 7  
—(D) *Oi* 16 18 6 4 7

Apocrypha *Ecc l a t em* 44 19 23—(D) OT  
*Ecc l a t em* 44 20 26

NEW TESTAMENT *Luk* 1 71 75 / *A is* 3 25  
7 1-8 / *R man* 9 1 9 1 25 27 / *Galat a*  
3 13 18 4 22 31 / *Eph n* 2 12 13 /  
*H b us* 8-6-9 28 1 14 17

18 AUGUSTINE *City of God* bk xvi ch 6 29  
433c 441a ch 32 441c 442c ch 36 443d  
444b ch 38 445a d bk xvii ch 7 458c  
459d bk xlii c 13 588a b

23 HOBBS *Leathan* part iii 177 180a

32 MILTON *Pa ad Lo s* bk xi [880-897] 318b  
bk xii [ 1 1 6] 321b 322a [ 5 1 72] 322b  
323a [259-269] 324b 325a

33 PA C L *Pens* 63 -640 289b 290a 675  
296b 297a 713 304b 308a 717 7 9 308b  
309a

4b The destruction of Jerusalem and the dis-  
pers on of Israel the restoration of  
Is ael and the rebuilding of the Temple

OLD TESTAMENT *Le i ci s* 26 27 39 / *De ter*  
*on my* 4 25 3 25 15 3 1 31 16-18 /  
*Jo hua* 23 12 6—(D) *J u* 23 12 16 / *II*  
*Ang* 17 20 2 2 2 1 15 32 12 0  
23 26-27 4 4 1 2 2—(D) *IV Ang*  
1 2 2 21 21 0 15 2 12 20 23 26-27  
24 1 4 1 2 / *II Ch unck* 7 19-2  
34 21 31 36 15 23—(D) *II Pa al pom n n*  
7 19-22 31 21 33 36 15 23 / *Palm* 14 7  
53 6 78 58 72 79 85 1 3 126 137—(D)  
*Palm* 13 52 7 77 58 72 8 84 4 125  
136 / *I a ah* 0 4 1 3 22 18 32 36-37  
39 42 43 49 51 52 6 63 65 8 0 17 25  
66—(D) *I a as* 1 0 14 3 2 28 32 36-  
37 39 42 43 49 51-52 60-63 65 8 10 17

25 66 / *Ierem ah* 1 45 passim 49-52 passim  
—(D) *Ieremias* 1 45 passim 49 52 passim /  
*Lamentations* / *E ch el* 4-7 9 11 4 282-  
26 33 48 passim esp 33 23 29 36 1 37 3  
39 22-40-2 43 1 10 47 1 23—(D) *E ch el*  
4-7 9 11 24 28 20 6 33 48 passim  
esp 33 23-29 36 1 37 28 39 22 40 2  
43 1 47 1 23 / *Hos a* 2 3 4-5 5 11  
—(D) *Osee* 2 3 4-5 5 11 / *Joel* 2 3 / *A*  
passim / *Obadiah* passim—(D) *Abd a* passim  
/ *M cah*—(D) *Micheas* / *Nahum* passim /  
*Habakkuk*—(D) *Haba uc* / *Zeph niah*—(D)  
*S phon as* / *Zechar ah* passim—(D) *Zachar*  
passim

Apocrypha *Tobit* 14 4-5—(D) OT *T b* 1  
14 6-7 / *Ecclesiasticus* 49 4-50 2—(D) OT  
*Ecc l a t em* 49 5-50 2 / *Baruch* 5—(D)  
OT *Baruch* 5

NEW TESTAMENT *Matthew* 24 1 2 / *Mat*  
13 1 2 / *Luke* 21 5-6 19 41 44

III AUGUSTINE *City of God* bk xvii ch 7  
458c 459d bk xviii ch 46 500a d ch 47  
501b c

23 HOBBS *Leathan* part iii 179a b 2-4b 6  
33 PASCAL *Pensées* 638-641 289b 290a 7 3 9  
304b 309a 722 309a 312a 726 313a 315b

4c The coming of a Messiah Hebrew a d  
Christ an readings of messianic proph  
ecy

OLD TESTAMENT *Genesis* 3 15 12 3 18 9  
21 12 22 18 26 4 28 14 49 10-1 2 6 /  
*Numbers* 24 15-25 / *Deuteronomy* 8 1 9  
/ *I Ch onicles* 17 11-14—(D) *I Pa al p mem*  
1, 11 14 / *J b* 19 5 27 / *Psalms* 2 7 8 5-6  
14 7 16 10 19 4-5 21 22 40 1-8 45  
50 1 3 68 7 80 16-18 8 78 89 19 93-  
37 1 0 118 22 26—(D) *Psalms* 2 7 8 5-6  
13 7 15 10 18 6 20-21 39 1-8 44 7 49 1  
3 67 71 79 16-18 84 88 19-39 16-37  
109 117 22 26 / *Iziah* 7 10-16 8 3 1  
9 6-7 11 1-5 16 1 22 20-25 28 16 29 31  
35 4 4 1 11 41 2-3 8 14 25 42 1 7 45  
46 11 12 49 1 13 22 23 51-55 59-66 68  
sum esp 59 16-21 61 1 3 62 11-63 14 64 1-7  
—(D) *I a a* 7 10-16 8 3 4 9 6-7 11 1 1  
16 1 22 20-25 28 16-9 32 37 4 1  
22 41 2 3 8 14 25 42 1-7 45 46 11 1  
49 1 13 22 23 52-55 59-66 68 69 1  
59 16-2 61 1 3 62 11-63 14 64 5 1  
*Ierem ah* 23 5-6 30 7-9 31 31 33 31 31  
18—(D) *Ier mah* 23 5-6 30 7-9 31 31 31  
33 10 18 / *E k l* 1 7 22 24 34 37 21 26 /  
—(D) *Ez h l* 17 22 24 34 37 21 26 /  
*Dan el* 2 44 7 13 14 9 24 27 / *Hosea* 1 11  
3 5 13 14 14 5-7—(D) *Ose* 1 11 3 5  
13 14 14 6 8 / *M cah* 5 2 5 7—(D)  
*M chea* 5 2 5 7 / *Zeph niah* 2 0 1 3-4  
6 12 24 9 9-11 11 6 13—(D) *Zachar*  
2 1 3 8 9 6 12 14 9 9-11 11 6 13 /  
*Malach* 3 3 4 5-6—(D) *Mal a h* 3 1 3  
4 5-6

Apocrypha Wisdom of Solomon 1:1-2:4 (D)

OT Book of Wisdom 2:12-22 / Baruch 3:36-38 (D) OT Baruch 3:36-38

New Testament Matthew 3:1-12 / Mark 1:4-8 / Luke 2:5-34 3:1-6 / John 1:19-25 10:45 7:26-31 / Acts 29-36 3:8 26 / Romans 11:25 7

18 AUGUSTINE City of God xvii ch 3 262a b  
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 420 bk xvi ch 2 422b-423d ch 37 444b  
 445a bk xvii 449a-472a c passim bk xviii  
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 487 ch 30 487c d ch 33 34 490c 491c  
 ch 44 498a d ch 46 500a d bk xix ch 23  
 525b c

20 AQUINAS Summa Theologiae PART I-II Q  
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 and REP 1 2 299b 300d 1 7 A 327b  
 329a PART III Q 26 A 1 R P 1 845b 846a

21 DANTE Divina Comedy PURGATORY xii [55  
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23 HOBBS Leviathan PART III 179d 187b c  
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32 MILTON Upon the Circumcision 12b 13a /  
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33 PASCAL Penées 607-609 280a b 613 282b  
 283 6 6-619 283b 285a 66a-664 293b  
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 300b 319 747 749 319b 320a 751-761 320a  
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40 GIBSON Decline and Fall 181b 206a b 207d  
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41 GIBSON Decline and Fall 134b

4d The second coming of the Lord the Day  
 of Judgment the end of the world and  
 the millennium

Old Testament Job 9:25 21 esp 2 30-32  
 / Psalms 50 72 95 10-13 97-98 (D)  
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 4 26 1 28 15 30 34-35 65 17 25 66-  
 (D) Isaiah 4 1 4 26 1 8 15 3 34-  
 35 65 7 25 66 / Daniel 7 2 27 1 2 /  
 Joel 14 11 7 32 3 / Micah 4 (D)  
 Malachi 1 4 / Zephaniah (D) Sophonias /  
 Zachariah 44 (D) Zechariah 4 1 14b ch  
 3 4 (D) Malachi 3 4

Apocrypha Tobit 13:9-4 5 (D) OT Tobias  
 3 1 4 7 / Judith 16 7 (D) OT Judith  
 16 20-2

New Testament Matthew 4 4 11 20-4  
 12 34 36 13-24 5 24 5 / Mark 3 4 37  
 / Luke 17 0-37 9 28 1 / John 12 48  
 14 3 4 / Acts 9 7 1 7 3 / Romans  
 2 5 1 / I Corinthians 5 23 8 / Philippians  
 3 20-21 / I Thessalonians 1 15 19-19 4 12-  
 5 / II Thessalonians 1 2 / II Timothy 3  
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29 4 17 / Jude 14-25 / Revelation on esp 1:4 20  
 14 15 16:21 20 1-2 21 (D) Apocalypse esp  
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16 KEPLER Epitaph 1848b

18 AUGUSTINE City of God bk xviii ch 53  
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 Doctrine bk i ch 15 628b c

20 AQUINAS Summa Theologiae PART II SUPPL  
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21 DANTE Divine Comedy HELL, VI [94 115]  
 9b ARAD SE XIX [100-148] 136a e

22 CHAUCER Parson's Tale pa 10 498b 499b

23 HOBBES Leviathan PART I 179d 197 230a  
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32 MILTON Christ in the Tye [125-172] 4b 5b / At  
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 404a b

33 PASCAL Pensées 757 321a

35 LOKE Tlerat 17a b

40 GIBSON Decline and Fall 187c 188

41 GIBSON Decline and Fall 233c 234d

52 DOSTOVSKY Brthers Karamazov bk 1  
 13c d kv 127b 137c

5 The criticism and rejection of prophecy the  
 distinct on between true and false  
 prophecy the condemnation of strol  
 and divination as impiety or supe  
 rition

Old Testament Exodus 7 10-13 22 / Deuter  
 omy 3 5 18 5 2 / I Samuel 8 1  
 (D) I Kings 28 1-10 / I Kgs 3 11 34  
 18 17 40 22 5 25 (D) III Kgs 13 34  
 18 7-40 22 5 25 / II Kgs 17 17 (D)  
 II Kgs 17 17 / I Chr 10 13 14 (D)  
 I Paralipomenon 13 14 / II Chr 10 13  
 18 (D) II Paralipomenon 8 / I Chr 8 8-  
 22 30 9 41 21 29 47 13 (D) Isa 1  
 8 18 22 3 9 11 41 2 9 47 12-13 / Jere  
 miah 2 8 5 1 14 31 4 13 16 23 9 40  
 27 9-18 28 9 8-9 29 32 36-38 esp 37 18  
 (D) Jeremiah 5 12 43 14 3 6  
 23 9 4 7 9-18 28 29 8-9 29-32 36-38  
 esp 37 7 9 / Ezekiel 13 14 9 20 2 3  
 2 23 3 (D) Ezekiel 3 4 9 21 1 3  
 2 23 31 / Daniel 9 2 2 23 4 27  
 5 5 7 / Micah 3 5 2 (D) Micah 3 5 2  
 / Zechariah 13 6 (D) Zacharias  
 0 2 3 6

Apocrypha Wisdom of Solomon 14:27 29 (D)  
 OT Book of Wisdom 14:27 9 / Ecclesiastes  
 34 1 7 (D) OT Ecclesiastes 34 7

New Testament Matthew 7 15-23 38 40  
 13 54-57 16 1 4 23 29-39 3-8 /  
 Mark 6 1-5 8 - 3 / Luke 6 6  
 11 6 9 / John 4 44 / I Peter 3 / I John  
 4 6



*The critic sm and reject on of prophecy the dist nct on between true and false prophecy th condemnation of astrology and d sma t on as impi ty or superst ion*

- 4 HOMER *Iliad* BK XII [195-250] 84a d / *Odyssey* BK II [146-207] 189c 190b
- 5 AESCHYLUS *Agamemnon* [248-254] 54d [1178-1213] 64c 65a
- 5 SOPHOCLES *Oedipus the King* [300-512] 102a 103d [702-725] 105d 106a / *Antigone* [1155-1171] 140d 141a
- 5 EURIPIDES *Helen* [744-760] 305b / *Iphigenia Among the Tauri* [570-575] 416a / *Iphigenia at Aulis* [948-960] 433d-434a
- 5 ARISTOPHANES *Knights* [108-233] 471b-472d [941-1099] 481d-483d / *Peace* [1039-1126] 537d 539a / *Birds* [959-991] 554c 555a
- 6 HERODOTUS *History* BK 10 BK II 86c BK III 116a b BK VIII 273b-c
- 6 THUCYDIDES *Peloponnesian War* BK II 389a b BK V 489a b 306b
- 7 PLATO *Timaeus* 466d 467b
- 8 ARISTOTLE *Prophesying* 707a 709a c
- 12 LUCRETIVS *Nature of Things* BK I [80-135] 2a d
- 12 EPICTETUS *Discourses* BK II CH 7 145b 146a
- 12 AURELIUS *Meditations* BK I SECT 6 253b
- 14 PLUTARCH *Pericles* 123c 124a 138d / *Alexander* 575a 576a / *Marcus Brutus* 816d 817c
- 15 TACITUS *Annals* BK IV 79b BK VI 91a d BK XII 121d / *Historiae* BK I 191d 194a b 195b-c BK IV 274b 283b BK V 298b c
- 14 AUGUSTINE *Confessions* BK IV par 4-6 20a d BK VII par 8 10 45d-47a / *City of God* BK V CH I 7 207d 212c CH 9 213b c BK VI CH 35 263c 264a c BK XVIII CH 41 496b c BK XIX CH 23 525c 528a / *Christian Doctrine* BK II CH 21 24 647a 649a

- 19 AQUINAS *Summa Theologica* PART I Q 115 A 3 REP 4 588c 589c AA 4-6 589d 592d PART I II Q 9 A 5 660d 662a
- 21 DANTE *Divine Comedy* HELL XX 28b-29d
- 22 CHAUCER *Troilus and Cressida* BK V STA 1A 52-55 127a b STANZA 183 185 144a b STANZA 218 148b / *Parson's Tale* par 38 522b
- 23 HOBBS *Leviathan* PART I 80d 81d 82b PART III 165d 167b 183b d 186c 188a 190a b
- 24 RABELAIS *Gargantua and Pantagruel* BK I 66b 67d BK II 82c d BK III 158b-171a 173d 175c 215c 219b
- 25 MONTAIGNE *Essays* 18d 20d 94d 95a 98b 99a 284d 285b
- 26 SHAKESPEARE *Romeo and Juliet* ACT I, III [35-114] 290d 291d
- 27 SHAKESPEARE *King Lear* ACT I SC II [112-166] 249a-c / *Macbeth* ACT V SC VIII [9-21] 310a b
- 29 CERVANTES *Don Quixote* PART II, 381a b
- 30 BACON *Advancement of Learning* 54c 55a
- 31 DESCARTES *Rules* V 7d 8a
- 33 PASCAL *Pensées* 173 203b-204a 597-591 278b 279a 817-818 330b 331b 835 334b
- 35 HOME *Human Undertakings* 94 492d 493c
- 36 STERNE *Tristram Shandy* 217b 221a 333 334b
- 38 ROUSSEAU *Social Contract* BK II 401d 402a
- 40 GIBSON *Decline and Fall* 3c 52b 931 121a b 170b c 223c d 460b 463b 81 [n 51]
- 46 HEGEL *Philosophy of History* PART I 217b-218b PART II 263d 265c 273b c PART III 311a
- 48 MELVILLE *Moby Dick* 232a 235a
- 54 FREUD *Interpretation of Dreams* 387a c / *General Introduction* 467a b / *New Introductory Lectures* 822b 825c

## CROSS REFERENCES

- For Other discussions of man's knowledge of the future by natural or supernatural means see FATE 5-6 KNOWLEDGE 5a(5) NECESSITY AND CONTINGENCY 4c TIME 6f Truth 3b(3). Another consideration of the religious significance of prophecy and its fulfillment see RELIGION 1b(3). Other discussions of the interpretation of oracles omens portents and visions see LANGUAGE 10 MEMORY AND IMAGINATION 8a SIGN AND SYMBOL 5b and for other treatments of dreams and their meaning see LANGUAGE 10 MEMORY AND IMAGINATION 8d 8d(1) SIGN AND SYMBOL 6a. The religious dogmas related to particular prophecies in Judaism and Christianity see GOD 7h 8b 8c 9f WORLD 8.

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups.

I Works by authors represented in this collection

II Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

## I

- PURCH Wherefore the Pythian Priestess Now  
Ceases to Deliver Her Oracles in Verse Why  
the Oracle Cease to Give Answer in Moral a  
AUGUSTIN *De Genesi ad Litteram* BK XII CH 9  
— *On the Spirit and the Letter*  
AQUINAS *Quæstiones Disputatæ De Veritate*  
Q 2  
— *Summa Theologiae* PART I - I QQ 71-175  
F B CON Of Prophecies in Essays  
SINOT *Tractatus Theologico Politicus* (Theolog  
ical Political Treatise) CH 1-3 1  
NEWTON *Daniel and the Apocalypse*

## II

- CICERO *De Divinatione* (On Divination)  
TERTULLIAN *The Prescript Against Heretics*  
SEADIA GANN *The Book of Beliefs and Opinions*  
TREATISE III VIII

- MAIMONID *Eight Chapters on Ethics* CH 7  
— *The Guide for the Perplexed* PART II CH 3 -47  
CADEGAN *Life Is a Dream*  
J TAYLOR *A Discourse of the Liberty of Prophecy*  
FONTENELLE *Histoire des oracles*  
LEIBNITZ *New Essays Concerning Human Under  
standing* K IV CH 19  
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PAGET *The Age of Reason* PART I  
J H NEWMAN *Lectures on the Prophetic Office of  
the Church*  
KIERKEGAARD *Of the Difference Between a Genius  
and an Apostle*  
COMTE *System of Positive Philosophy* VOL 1 *Theory of  
the Future of Man*  
W R SMITH *The Prophecies of Israel and Their Place  
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FRAZER *Pythia and the Rise of Judaism*  
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## Chapter 73 PRUDENCE

### INTRODUCTION

OF the qualities or virtues attributed to the intellect, prudence seems to be least concerned with knowledge and most concerned with action. When we call a man a scientist or an artist or praise the clarity of his understanding, we imply only that he has a certain kind of knowledge. We admire his mind, but we do not necessarily admire him as a man. We may not even know what kind of man he is or what kind of life he leads. It is significant that our language does not contain a noun like *scientist* or *artist* to describe the man who possesses prudence. We must use the adjective and speak of a prudent man, which seems to suggest that prudence belongs to the whole man, rather than just to his mind.

Prudence seems to be almost as much a moral as an intellectual quality. We would hardly call a man prudent without knowing his manner of life. Whether he behaved temperately would probably be much more relevant to our judgment of his prudence than whether he had a cultivated mind. The extent of his education or the depth of his learning might not affect our judgment at all, but we probably would consider whether he was old enough to have learned anything from experience and whether he had actually profited from experience to become wise.

These observations not only express the ordinary sense of the word *prudence*, but also give a summary indication of the idea for which that word stands in the great books. Like other fundamental traits of mind or character, prudence is considered by the poets and historians in terms of precept and example. For the definition of the term or for an analysis of its relation to other fundamental ideas, such as virtue and happiness, desire and duty, one must go to the great works of moral and political theory or of theology.

Even there, however, the conception of prudence is used more frequently than it is expounded. Plato, Aristotle, Aquinas, Hobbes, and Kant seem to be the exceptions, and of these only Aristotle and Aquinas offer an extended analysis—Aristotle in his book on intellectual virtue in the *Ethics*, Aquinas in certain questions of his *Treatise on Habits* in the *Summa Theologiae*, but more extensively in his *Treatise on Prudence* (see the questions from the *Summa Theologiae* cited in the list of Additional Readings).

THAT PRUDENCE IS NOT knowledge in the ordinary sense of the term—that it is a product of experience and a possession of reason which unlike science or art cannot be expressed in propositions—seems to be clearly implied by Hobbes. When the thoughts of a man that has a design in hand, running over a multitude of things, observes how they conduce to that design, or what design they may conduce to if his observations are such as are not easy or usual, this wit of his is called Prudence, and depends on much experience and memory of the like things and their consequences heretofore.

Whereas science can achieve some certainty, the judgments of prudence are, according to Hobbes, all uncertain, because to observe by experience and remember all circumstances that may alter the success is impossible. It is the opposition between experience and science which seems to lead Hobbes to distinguish prudence from wisdom. As much experience is prudence, so is much science wisdom. For though we usually have one name of wisdom for them both, yet the Latins did always distinguish between *prudentia* and *sapientia*, attributing the former to experience, the latter to science.

The Greeks also had two words—*phronesis*

and *sophia*—both of which are sometimes translated in English by wisdom. But Aristotle like Hobbes insists upon the distinction between the wisdom which is the ultimate fruit of the speculative sciences or philosophy and the wisdom which belongs to the sphere of moral and political action. Wishing to preserve Aristotle's sense that *phronesis* and *sophia* have something in common which deserves the eulogistic connotation of wisdom, his translators usually render these words in English by the phrases practical wisdom or political wisdom (for *phronesis*) and speculative wisdom or philosophical wisdom (for *sophia*). The English rendering of Aquinas on the other hand usually translates his *prudencia* by prudence and his *sapientia* by wisdom.

Whether it is permissible to use prudence and practical wisdom as synonyms may be more than a question of verbal equivalence for there is a fundamental issue in theory concerning the unity of wisdom on which Plato differs from both Aristotle and Aquinas. The question about the relation of knowledge and virtue may be differently answered according to the view of wisdom which denies its division into speculative and practical and according to the view which conceives the possibility that a man may be wise in one way without being wise in the other. In the language of Aquinas a man may have acquired wisdom through science and understanding without having the moral character of a prudent man.

That practical wisdom is not scientific knowledge is evident. Aristotle declares this is confirmed he adds by the fact that while young men become geometers and mathematicians and wise in matters like these it is thought that a young man of practical wisdom cannot be found. The reason is that such wisdom is concerned not only with universals but with particulars which become familiar from experience but a young man has no experience for it is length of time that gives experience.

Hobbes and Aristotle seem to agree that experience is important for the development of prudence or practical wisdom precisely because it is practical and practice is concerned with particulars. But though both also agree that this explains the distinction between prudence and scientific knowledge—which is con-

cerned not with action but with the nature of things—Aristotle alone raises a further question about the distinction between practical wisdom and art.

In making something the artist also deals with particulars. In this sense art is also practical. But according to Aristotle the word productive should be used in distinction from practical to signify the difference between making and doing—two kinds of human activity which though alike as compared with scientific knowing represent knowledge differently applied. The knowledge which the artist possesses can furthermore be formulated in a set of rules. An individual can acquire the skill of an art by practicing according to its rules. What a man knows when he is prudent seems to be much less capable of being communicated by precept or rule. What he knows is how to deliberate or calculate well about things to be done.

This in Aristotle's view marks prudence off from all other virtues. That prudence is a quality of mind seems to follow from the fact that it involves deliberation, a kind of thinking about variable and contingent particulars of the same sort which belong to the practical opinion. That prudence is also a moral virtue, an aspect of character, seems to follow from Aristotle's statement that prudence is deliberation about the means to a good life, but only about those which concern the good life in general.

PRUDENCE IS NOT  
MIND IN DELIBERATION  
OF ACTION NOR IS IT  
PRAISEWORTHY OR  
VIRTUE AND THE GOOD

It is for causing  
foresight or even  
So conceived prudence  
quire rational power  
imagination in order  
into the future. It  
it may be said that  
animals have prudence  
which are four kinds  
with regard to the future.

Identifying prudence  
conceives prudence as

to God. When the event answers expectations the prediction is attributed to prudence yet human foresight being fallible it is but presumption. For the foresight of things to come which is Providence belongs only to him by whose will they are to come. Aquinas gives a quite different reason for saying that prudence or providence may suitably be attributed to God. It is that the ordering of things toward their ultimate end is the chief part of prudence to which two other parts are directed—namely remembrance of the past and understanding of the present inasmuch from the remembrance of what is past and the understanding of what is present we gather how to provide for the future.

Prudence is sometimes described not as a virtue of the mind or even as the power of foresight but as a temperamental trait an emotional disposition. It is associated with timidity or caution in those who are fearful of risks or unwilling to take chances. It is in this sense that Bacon seems to oppose hopefulness to prudence which is diffident upon principle and in all human matters augurs the worst. The cautiousness of the over-deliberate man may involve thought as well as fear. Hamlet thinks too much and on too many sides of every action. His action being sicklied o'er by the pale cast of thought he is irresolute. He laments his misuse of reason. Whether it be bestial oblivion or some craven scruple of thinking too precisely on the event—a thought which quartered hath but one part wisdom and ever three parts coward—I do not know. Yet I live to say this thing's to do since I have cause and will and strength and means to do it.

When prudence is conceived as excessive caution its opposite is usually described as rashness precipitateness or impetuosity. Thucydides portrays these opposites in the persons of Nicias and Alcibiades. Their speeches to the Athenian assembly on the question of the Sicilian expedition do not merely present an opposition of reasons for and against the undertaking but also represent an opposition of types of human character. Both come to grief. Nicias the overcautious leader of the expedition who earns a not inevitable defeat by his ever-delaying tactics and Alcibiades who does

not stop at treachery or treason when the moment seems ripe for action which if quickly taken may succeed.

Aristotle and Aquinas would use such facts to argue against what in their view is the misconception of the prudent man as the opposite of the impetuous. The prudent man in that opinion does not stand at the other extreme of undue caution. In their theory of the virtues as means between extremes of excess and defect prudence like courage or temperance represents a mean consisting in neither too much nor too little. As cowardice and foolhardiness are the opposite vices of too much and too little fear—and as both are opposed to the mean of courage which involves a moderation of fear—so excessive caution and impetuosity are the vices opposed to prudence as well as to each other.

Nor are prudence and imprudence simple matters of temperament. Men may differ in their temperamental dispositions but according to Aristotle and Aquinas, these are not to be confused with virtues and vices. One man may be by nature more fearful or fearless than another but regardless of these differences in emotional endowment either may become courageous by forming the habit of controlling fear for the right reasons. So too, one man may be naturally more impulsive or more circumspect than another but either can acquire prudence through learning to take sufficient counsel and to deliberate enough before action, while also forming the habit of resolving thought into action by reaching decisions and commanding their execution. Failing to satisfy these conditions of prudence either may develop the vices of imprudence becoming like Hamlet or Nicias irresolute or like Alcibiades impatient of counsel or ill advised lacking care in deliberation and soundness in judgment.

THE CONCEPTION OF prudence as itself the extreme of caution whether temperamental or habitual is not the only challenge to the Aristotelian theory of prudence as a virtue. Other moralists especially those who take a different view of virtue generally do not seem to look upon prudence as wholly admirable. Even when they do not condemn prudence as an indisposition to act promptly or decisively

enough they seem to give prudent deliberation the invidious connotation of cold and selfish calculation

A suggestion of this appears in Mill's contrast between duties to ourselves and duties to others wherein he remarks that the term duty to oneself when it means anything more than prudence means self respect and self development. It would seem to be implied that prudence means something less—something more selfish—than a proper and justifiable self interest: the violation of which involves a breach of duty to others for whose sake the individual is bound to have care for himself.

Kant more explicitly than Mill associates prudence with expediency and self seeking and separates it from action in accordance with duty under the categorical imperative of the moral law. Prudence has meaning only in relation to a hypothetical imperative which expresses the practical necessity of an action as a means to the advancement of happiness. Granted that a man seeks his individual happiness then skill in the choice of means to his own greatest well being may be called *prudence*. Consequently the imperative which refers to the choice of means to one's happiness is the precept of prudence is still always hypothetical: the action is not commanded absolutely but only as a means to another purpose or as Kant says else here the maxim of self love (prudence) only *advises* the law of morality *commands*. Furthermore he holds that what *duty* is is plain of itself to everyone but what it is to bring true durable advantage such as will extend to the whole of one's existence is always veiled in impenetrable obscurity and much prudence is required to adapt the practical rule founded on it to the ends of life even tolerably by making exceptions.

In terms of Kant's division of the imperatives of conduct into the pragmatic and the moral according as they refer to welfare and happiness or duty and law prudence is merely pragmatic. It does not belong to morality. The pragmatic imperative of prudence is more like the technical imperative of art which is also conditional and concerned with determining means to an end—in this case the thing to be produced by skill. If it were only equally easy

to give a definite conception of happiness the imperatives of prudence would correspond exactly with those of skill.

As Kant sees it the sole business of reason in the moral philosophy of prudence is to bring about a union of all the ends which are aimed at by our inclinations into one ultimate end—that of *happiness* and to show the agreement which should exist among the means of attaining that end. In this sphere accordingly reason cannot present to us any more than *pragmatic* laws of free action for our guidance towards the aims set up by the senses and is incompetent to give us the laws which are pure and determined completely *a priori*. Hence the precepts of prudence are used by reason only as counsels and by way of counterpoise against seductions to an opposite course.

The issue between Kant and Aristotle (or Aquinas) with respect to prudence thus appears to be part of the larger issue between them on the fundamental principles of morality discussed in the chapters on *DUTY* and *HAPPINESS*. In Kant's view Aristotle and Aquinas no less than Mill are pragmatists rather than moralists. They are all utilitarians in the sense that they regard happiness as the first principle of human conduct and concern themselves with the ordering of means to this end. Since the consideration of means necessarily involves the weighing of alternatives as more or less expedient prudence becomes indispensable to the pursuit of happiness. The choice of the best means is second in importance only to the election of the right end.

Kant admits that those who live for happiness require a great deal of prudence in order to adapt practical rules to variable circumstances and to make the proper exceptions in applying them. None is required by those who live according to the moral law. The moral law commands the most punctual obedience from everyone: it must therefore not be so difficult to judge what it requires to be done that the commonest unpracticed understanding even without worldly prudence should fail to apply it rightly. That the principle of *private* happiness is the direct opposite of the principle of morality Kant seems to think is evident from the questionable worth of prudence for a man must have a different criti-

tion when he is compelled to say to himself I am a *worthless fellow* though I have filled my purse and when he approves himself and says I am a *prudent man* for I have enriched my treasure

Kant does not limit his criticism of prudence as pragmatic—or practical rather than moral—to the fact that it serves what he calls private happiness. It may serve the public welfare.

A history is composed pragmatically, he writes, when it teaches *prudence* *i.e.* instructs the world how it can provide for its interests better. But he also distinguishes between worldly and private prudence. The former is a man's ability to influence others so as to use them for his own purposes. The latter is the sagacity to combine all these purposes for his own lasting benefit. Nevertheless the prudence which aims at individual happiness is primary for when a man is prudent in the former sense but not in the latter we might better say of him that he is clever and cunning but on the whole imprudent.

THOSE WHO TAKE THE view that happiness is the first principle of morality would still agree with Kant that the man who is skillful in exercising an influence over other men so as to use them for his own purposes is clever or cunning rather than prudent. Hobbes for example says that if you permit to prudence the use of unjust or dishonest means, you have that Crooked Wisdom which is called Craft. Aristotle goes even further in his insistence that it is impossible to be practically wise without being good or as the same point is made in the language of Aquinas, one cannot have prudence unless one has the moral virtues since prudence is right reason about things to be done to which end man is rightly disposed by moral virtue.

To be able to do the things that tend towards the mark we have set before ourselves is according to Aristotle to be clever. If the mark be noble the cleverness is laudable but if the mark be bad the cleverness is mere smartness. Hence the man of prudence has a certain cleverness but the clever man who is merely smart cannot be called practically wise. By this criterion the clever thief who plans and executes a successful robbery, the shrewd busi-

nessman who without regard to justice calculates well how to maximize his profits or Machiavelli's prince who exercises cunning to get or keep his power exhibits not prudence but its counterfeits. In some cases the cleverness or shrewdness may simulate prudence without involving the knavery of craft or cunning. Some men have what Aquinas conceives as artistic (or technical) rather than moral prudence. Those who are good counsellors in matters of warfare or seamanship are said to be prudent officers or pilots but not simply prudent. Only those are simply prudent who give good counsel about all the concerns of life.

Aristotle and Aquinas make the relation between prudence and moral virtue reciprocal. The moral virtues depend for their formation and endurance as much upon prudence as prudence depends upon them. Virtue makes us aim at the right end. Aristotle writes and practical wisdom makes us take the right means. The rightness of the means is not merely that they be adapted to an end but that the end itself be right. The right end cannot be achieved unless the means to it be rightly chosen. Hence no skill of mind in deliberating about and choosing means is truly the intellectual virtue of prudence unless the man who habitually calculates well is also habitually inclined by the moral virtues to choose things for the right end, whether that be happiness or the common good of society.

Conversely the moral virtues depend upon prudence because in Aristotle's view they are formed by the making of right choices. His definition of moral virtue names prudence as an indispensable cause. Since the mean between extremes in which the virtues consist is in most cases subjective or relative, the individual it cannot be determined by objective measurements. Reason must determine it by a prudent consideration of the relevant circumstances.

The interdependence of prudence and the moral virtues seems to be the basis for both Aristotle and Aquinas of the insight that it is impossible to have one moral virtue without having all. On this basis Aristotle says we can refute the dialectical argument that the virtues exist in separation from one another.

As no moral virtue can exist apart from practical wisdom so with it all must be present.

Aquinas mentions another intellectual virtue as indispensable to the moral virtues namely the virtue of understanding which consists in knowing the first principles in practical as well as speculative matters. The first principles of the practical reason (*i.e.* the precepts of the natural law) underlie prudence as well as the moral virtues. Just as sound reasoning in speculative matters proceeds from naturally known principles so also does prudence which is right reason about things to be done. Nevertheless though prudence and the moral virtues depend upon it Aquinas does not include understanding—as he does not include art science and wisdom—in his enumeration of the four cardinal virtues cardinal in the sense of being the virtues indispensable to a good human life.

THESE MATTERS especially the interconnection of the virtues and the theory of the cardinal virtues are discussed in the chapter on VIRTUE. The problem of the relative worth of the moral and the intellectual virtues is also considered there and in the chapter on WISDOM where the contributions to happiness of prudence and wisdom—or of practical and speculative wisdom—are specifically compared.

Here there remains to be considered the Socratic conception of the relation between knowledge and virtue for there seems to be an issue between his theory of this matter and the foregoing view of the relation between prudence and the moral virtues.

In the *Meno* Socrates argues that whatever a man desires or chooses he either knows or deems to be good. The man who chooses something evil for himself does not do so knowingly but only through the mistake of deeming that which is in fact evil to be advantageous or good. Except for such mistakes no man says Socrates wills or chooses anything evil. Apart from error or ignorance evil is never voluntarily chosen. Hence if virtue consists in willing or desiring things which are good and in having the power to gain them it would seem to follow that knowledge of the good is closely related to its practice.

Subsequently Socrates suggests that if

there be any sort of good which is distinct from knowledge virtue may be that good but if knowledge embraces all good then we shall be right in thinking that virtue is knowledge. To test these hypotheses he proceeds to consider the various things which—whether or not they are the same as virtue—are like virtue in being advantageous to men. None of these things such as courage or temperance seems to profit men unless accompanied by what in English translations is sometimes called wisdom and sometimes prudence.

Socrates points out that everything the soul attempts when under the guidance of wisdom—or prudence—ends in happiness but in the opposite when under the guidance of folly—or imprudence. If then he says virtue is a quality of the soul and if it be of necessity always advantageous then virtue must be wisdom or prudence since none of the things of the soul are either advantageous or hurtful in themselves but they are all made advantageous or hurtful by the addition to them of prudence or imprudence—wisdom or folly. From this says Socrates we can conclude that prudence is virtue either the whole of virtue or some part of it at least—or as this is sometimes translated virtue is either wholly or partly wisdom.

In the light of his own view that all the moral virtues depend on practical wisdom Aristotle criticizes the Socratic position. Socrates in one respect was on the right track while in another he went astray. In thinking that all the virtues were forms of practical wisdom he was wrong but in saying that they implied practical wisdom he was right. Socrates thought the virtues were rules or rational principles while we think they involve a rational principle. Similarly in considering the question whether there can be moral without intellectual virtue Aquinas writes. Although virtue be not right reason as Socrates held yet not only is it according to right reason insofar as it inclines a man to do that which is in accord with right reason as the Platonists maintained but it also need to be joined with right reason as Aristotle declares.

Aquinas furthermore interprets the opinion that very virtue is a kind of prudence which he attributes to Socrates as meaning



that when a man is in possession of knowledge he cannot sin and that everyone who sins does so through ignorance. This he says

■ based on a false supposition because the appetitive faculty obeys the reason not blindly but with a certain power of opposition. Nevertheless there is some truth in the saying of Socrates that so long as a man is in possession of knowledge he does not sin provided that this knowledge involves the use of reason in the individual act of choice.

Whether those who criticize the position of Socrates accurately perceive his intention and state the issue fairly are problems of interpretation as difficult as the question of where in this matter the truth lies. If Socrates is saying that a man will do good if he knows the good what sort of knowledge is implied—knowledge of the good in general or knowledge of what is good in a particular case? Do both types of knowledge of the good lead as readily or surely to good or virtuous action?

Whether or not in addition to knowledge a good will or right desire is essential it may be held that prudence is required to apply moral principles—aiming at the good in general—to particular cases. There exists no moral system writes Mill under which there do not arise unequivocal cases of conflicting obligation. These are the real difficulties the knotty points both in the theory of ethics and in the conscientious guidance of personal conduct. They are overcome practically with great or less success according to the intellect and virtue of the individual. Mill seems to imply that both prudence and virtue are essential to good action on the level of particulars and that without them the kind of knowledge which is expressed in moral principles does not necessarily lead a man to act well.

ONE OTHER PROBLEM OF INTERPRETATION must be mentioned. It occurs with respect to Aristotle's statement concerning diverse modes of prudence.

Political wisdom and practical wisdom are the same state of mind he writes but their essence is not the same. Of the wisdom concerned with the city the practical wisdom which plays a controlling part is legislative wisdom while that which is related to this as par-

ticulars to their universal is known by the general name of political wisdom. Practical wisdom also is identified especially with that form of it which is concerned with the individual man and this is known by the general name practical wisdom. Of the other kinds, one is called domestic another legislative a third political and of this last one part is called deliberative and the other judicial.

Does this mean that skill of mind in determining the best means to an end is different according to differences in the end—whether the happiness of an individual or the common good of a society? Does it mean furthermore that the prudence involved in managing a household is different from the prudence concerned with political affairs and that in the state the prudence of the ruler (prince or statesman) is different from the prudence of the ruled (subject or citizen) because the one moves on the level of general laws the other on the level of particular acts in compliance with law? Within the sphere of jurisprudence or the prudence of laws is the prudence of the legislator or lawmaker different from the prudence of the judge who applies the law?

In his Treatise on Prudence Aquinas answers these questions affirmatively. He distinguishes between private domestic and political prudence and within the political sphere places special emphasis upon what he calls reigative prudence the sort of prudence Dante calls a kingly prudence which sets the prince apart from ordinary men. Hobbes on the other hand asserts that to govern well a family and a kingdom are not different degrees of prudence but different sorts of business no more than to draw a picture in little or as great or greater than life are different degrees of art.

This issue is intimately connected with the problem of the forms of government. If only a few men are fitted by nature to acquire the special mode of prudence which is reigative or legislative would not government by the few or by the one seem to be naturally best? If however in a republic those who are citizens rule and are ruled in turn should not each citizen have the prudence requisite for both tasks whether it be the same or different? Finally if the democratic theory is that all men

are capable of being citizens—though not all perhaps are equally eligible for the highest public offices—must not political prudence be conceived as attainable by all men?

The question remains open whether those who deserve the highest magistracies have a

special mode of *reignative* prudence or merely a higher degree of the same prudence by which they govern their private lives and their domestic establishments or as Hobbes suggests have other abilities whereby they can apply the same prudence to a different kind of business

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## REFERENCES

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# 1 The nature of prudence as practical wisdom value or quality of the deliberative mind

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■ TUCYDIDES *Peloponnesian War* BK I 383d 384a

7 PLATO *Clitarchus* 7b c / *Protagoras* 43a ■ / *Men* 183d 184c 188b 189d

8 ARISTOTLE *Topica* BK IV CH 2 [121<sup>b</sup> 24-122<sup>a</sup>] 169d 170a

9 ARISTOTLE *Ethica* K I CH 13 [1103 4-] 348c d BK VI C 5 389 ■ H 7 390a d esp [1141<sup>b</sup> 8 3] 390c d / *Rhetorica* K I CH 9 [1366<sup>b</sup> 20-23] 609a b

12 EPICETUS *Discourses* BK I ■ 105 106c BK II CH 5 142c 144 CH 23 170a 172d K III CH 2 177c 178d CH 10 185d 187a K IV CH 5 228a 230b

12 AURILIUS *Medicine* K II RT II 258a b BK V SECT 9 270b-c SECT 34 273 BK VI SECT 12 274c BK I SECT 16-7 286d 3 CT 48 289c

12 AUGUSTINE *City of God* BK XIX CH 4 512a

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20 AQUINAS *Summa Theologiae* PA TI II Q 56 A 3 ANS 31a 32b Q 57 AA 4-5 38a 40a Q 58 A R P I 42a 43a A 3 REP I 43b 44 Q 65 A I 70b 72a PART I II ■ 101 A 2 617d 618c

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24 RABELAIS *Gargantua and Pantagruel* BK III 201b c

25 MONTAIGNE *Essays* 520b c

30 BACON *Advancement of Learning* 42a-c 81d 95b

37 FIELDING *Tom Jones* 395a 396b

38 ROUSSEAU *Inequality* 349b

42 KANT *Fundamental Principles of Metaphysics of Morals* 261c d 266b c esp 266b d [in I] 267b d /

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*Practical Metaphysical Elements of Ethics* 376c 377d

46 H. L. *Philosophy of Right* PART III par 191 66b

49 DARWIN *Descent of Man* 315b c

51 TOLSTOY *War and Peace* K X 424a-c

53 J. *Psychology* 13a 15a *passim*

2 The place of prudence among the virtues of the mind

2 Practical or political wisdom distinguished from speculative or philosophical wisdom

7 PLATO *Statesman* 581c 582a / *Philbus* 633a 635b

9 AISTOTLE *Ethics* BK I CH III [1098<sup>b</sup>24 26] 344b BK VI CH I [1135<sup>b</sup>17]-CH 3 [1139<sup>b</sup> 8] 387a 388b CH 7-8 390 391c CH II [1143<sup>b</sup> 4]-CH 12 [ 44 36] 393b 394a CH 13 [1145 6-12] 394d / *Rhetoric* BK I CH II [1371<sup>b</sup> 6-8] 615b

19 AQUINAS *Summa Theologica* PART I Q I A 6 ANS 6b 7a

20 AQUINAS *Summa Theologica* PART II Q 66 A 3 R 1 79b 80c

21 DANTE *Divine Comedy* PAR D E XIII [89-4] 126b-c

23 HOBBS *Leviathan* PART I 60c 61r 84c d PART IV 267a b

25 MONTAIGNE *Essays* 327b d 520b c

30 BACON *Advancement of Learning* 4 6c 16d 17a 42 c 55b-d 65d 66a 86b c

31 DES ARTES *Discourse* PART 44 b PART II 48b-c

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35 LOCKE *Human Understanding* d g INTRO s CT 5-6 94b-95a

36 HUME *Human Understanding* s CT I DVI-5 451-453b

38 ROLAND *Pulchritudo* 373c 374a

42 KANT *Pure Reason* n 60b 190 191a / *Groundwork of Metaphysics of Morals* 260d 261d 266 d 271 c / *Practical Reason* n 291 296d 319 321b 329a 330c / *Introductory Metaphysics of Morals* 388a d 390b d 391 / *Judgment* 461a-473d esp 463 464 474b 475d

43 MILL *Representative Government* 346c 347a

46 HUME *Philosophy of Right* PREF 4b 7a

6 Prudence distinguished from action or doing contrasted with production or making

7 PLATO *Charmides* 5c 6d / *Philebus* 633a 635b

9 AISTOTLE *Ethics* BK VI CH I [ 39 32<sup>b</sup>5] 388a BK IV [1141 1]-CH 6 [ 41 ] 388d 389d CH III [ 143<sup>b</sup> 7 ] 44 6] 393b

19 AQUINAS *Summa Theologica* PART I Q 34 A 1 RE 3 768c 769d

20 AQUINAS *Summa Theologica* PART II Q 56 A 3 ANS 31a 32b Q 57 A 4 38a 39 A 5 RE 13 39-40a Q 58 A 2 RE 1 42a-43a A 5 REP 2 44d-45c Q 65 A 1 RE 4 70b-72a

30 BACON *Advancement of Learning* III c

42 KANT *Fundamental Principles of Metaphysics of Morals* 266c d / *Introduction to Metaphysics of Morals* 388a-d / *Judgment* 515b-c 523d 524

2c The relation of prudence to intuitive reason or to the understanding of the natural law the moral perception of particulars

9 AISTOTLE *Ethics* BK I CH 4 [ 095 30<sup>b</sup>1 ] 340 d CH 7 [1098 35-38] 343d 344a BK II CH 9 [ 109<sup>20</sup>- 3 ] 355c BK III CH 3 [1112<sup>b</sup>34-1113<sup>2</sup>2] 358d 359a BK VI c 5-6 389a d CH 8 [1142 12 31] 391b c CH II [1143<sup>2</sup>5<sup>b</sup>5] 392d 393a BK VII CH 3 [1147<sup>2</sup>25<sup>b</sup>6] 397c d

20 AQUINAS *Summa Theologica* PART II Q 56 A 3 ANS 31a 32b Q 57 A 4 ANS and R 2 38a 39a A 5 REP 3 39a-40a A 6 ANS and REP 3 40a-41a Q 58 A 4 ANS 44a d A 5 ANS and REP 1 44d 45c

3 The interdependence of prudence and the moral virtues the parts played by deliberation will and emotion in human conduct

4 HOMOER *Odyssey* 183a 322d esp BK IV [ 65 295] 201d 202a K V [282 493] 210d 213 c BK X 1 250 254d BK XIII [185 44 ] 257a 259d BK XVI 272a 276d

5 AESCHYLUS *Prometheus Bound* 40a 51d esp [259 398] 42d 44a [930-1093] 50a 51d

5 SOCRATES *Philoctetes* 182a 195 s esp [50-134] 182d 183c

5 EURIPIDES *Hippolytus* [373 387] 228b-c / *Phoenician Women* [697 747] 384a d

6 HERODOTUS *History* BK VI 269c 270a

6 TRUCYDIDES *Politics* s BK I 370a-c BK II 389d 390b BK V 474a c

7 PLATO *Protagoras* 48a 50d 58a 64d / *Meno* 174d 176a 183d 184d

9 AISTOTLE *Ethics* BK II CH 2 [1103<sup>b</sup>27-11 4 9] 349b c CH 6 351 352d passim BK VI CH 13 393b 394d BK VII CH 9 [ 51<sup>a</sup>29] CH 10 [1152<sup>a</sup>24] 402b 403b BK X CH 8 [1178 16-19] 432d

12 AURELIUS MARCIUS *Meditations* BK II EC 5 257b c

13 VIRGIL *Aeneid* BK VI [18 5] 259b

19 AQUINAS *Summa Theologica* PART I Q 113 A 1 REP 2 576a d

20 AQUINAS *Summa Theologica* PART I Q 57 A 4 ANS 38a 39a A 5 ANS 39a 40 Q 58 AA 4-5 44 45c BK 61 54d 59d

23 HOBBS *Leviathan* PART I 64 65b

25 MONTAIGNE *Essays* 20d 159a 162

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27 SHAKESPEARE *Hamlet* ACT IV SC V [32-66] 59a

29 CERVANTES *Don Quixote* PART II 256 d 291d

30 BACON *Advancement of Learning* g 86 95b

31 DES ARTES *Discourse* RT 48b 51b

33 LOCKE *Human Understanding* g s BK XVI EC 46-54 189d 192c s CT 69 196d 197a

37 FREDERICK TOMES *John* 45b 395a 396a

42 KANT *Fundamental Principles of Metaphysics of Morals* 261c d 266a 267d / *Practical Reason* 305d

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- 1 The nature of prudence as practical wisdom  
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- 1 APOCRYPHA *Ecclesiasticus* 4 9 23 34 9-10  
—(D) OT *Ecclesiasticus* 1 4 19 29 34 9-10
- 6 THUCYDIDES *Peloponnesian War* BK I 383d  
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- 7 PLATO *Charmides* 7b c / *Protagoras* 43a b /  
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- 8 ARISTOTLE *Topics* BK IV CH 2 [121<sup>b</sup> 24-  
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- 12 EPICTETUS *Discourses* BK I CH I 105a 106c  
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- 18 AUGUSTINE *City of God* BK XIX CH 4 512a
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- 20 AQUINAS *Summa Theologica* PART II Q 57  
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- 22 CHUCER *Tale of Melibeus* 401a-432a
- 23 HOBBS *Leviathan* PART I 53c 54a 60c  
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- 24 RABELAIS *Gargantua and Pantagruel* BK III  
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- 25 MONTAIGNE *Essays* 520b-c
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- 46 HEGEL *Philosophy of Right* PART III part 1st  
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- 49 DARWIN *Descent of Man* 315b c
- 51 TOSSOT *War and Peace* BK X 424a-c
- 53 JAMES *Psychology* 13a 15a *passim*

2 The place of prudence among the virtues of the mind

2a Practical or political wisdom distinguished from speculative or philosophical wisdom

7 PLATO *Statesman* 581c 582a / *Philebus* 633a 635b

9 ARISTOTLE *Ethics* K I CH 8 [109<sup>8b</sup>24 26] 344b BK VI CH 1 [113<sup>8b</sup>17]-CH 3 [113<sup>9b</sup>18] 387a 88b CH 7-8 390a 391c CH 11 [114<sup>3b</sup>14]-CH 11 [141 36] 393b 394a CH 13 [114<sup>5b</sup>6-1] 394d / *Rhetoric* II I CH 11 [137<sup>1b</sup>26 28] 615b

19 AQUINAS *Summa Theologica* PART I Q 1 A 6 ANS 6b 7a

20 AQUINAS *Summa Theologica* PART II Q 66 A 5 REP 1 2 79b 80c

21 DANTE *Divine Comedy* PARADISE XXXI [88-104] 126b

23 HOBBES *Leviathan* PART I 60c 61a 84c d ART V 267a b

25 MONTAIGNE *Essays* 327b d 520b c

30 BACON *Ad cement of Learning* 4c 6 16d 17a 42a c 53b d 65d 66a 86b c

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37 HUMPHREY *Human Understanding* SECT I DIV 1-5 451a-453b

38 ROBERTS *Political Economy* 373 374a

42 KANT *Practical Reason* 60b c 390c 191a / *Foundations of Metaphysics of Morals* 260d 261d 266c d 271a / *Practical Reason* 291a 296d 319 321b 329 330c / *Introductory Metaphysics of Morals* 388a d 390b d 391 / *Judgement* 461-475d esp 463 464 474b 475d

43 MILL *Representative Government* 346 347a

46 HUME *Philosophy of Right* PRE 4b 7a

3b Prudence distinguished from practical action or doing contrasted with production or making

7 PLATO *Charmides* 5c 6d / *Philebus* 633 635b

9 ARISTOTLE *Ethics* BK VI CH 1 [113<sup>8b</sup>17] 338a H 4 [14 1] CH 6 [114<sup>1b</sup>1] 388d 389d CH 12 [143<sup>1b</sup>17] 44<sup>6</sup>[393b c]

19 AQUINAS *Summa Theologica* ART I Q 34 A 1 2 3 768c 769d

20 AQUINAS *Summa Theologica* PART II Q 56 A 3 ANS 31a 32b Q 57 A 4 38a 39 A 5 REP 1 3 39 40 Q 58 A 2 REP 42a-43a A 5 REP 2 44d-45c Q 65 A 1 REP 4 70b-72a

30 BACON *Ad cement of Learning* 42a

42 KANT *Foundations of Metaphysics of Morals* 266c d / *Introductory Metaphysics of Morals* 388a d / *Judgement* 515b 523d 524a

2c The relation of prudence to intuitive reason or to the understanding of the natural law the moral perception of particulars

9 ARISTOTLE *Ethics* BK I CH 4 [109<sup>5</sup>30-31] 340c d CH 7 [109<sup>8</sup>33 38] 343d 344a BK II CH 9 [110<sup>9b</sup>20-23] 355c K III CH 3 [111<sup>2b</sup>34-1 3 2] 358d 359a K VI CH 5-6 389a d CH 8 [114<sup>2</sup>31] 391b c CH 11 [114<sup>3b</sup>25 26] 392d 393a K VII CH 3 [147<sup>2b</sup>25-26] 397c d

20 AQUINAS *Summa Theologica* ART I Q 56 A 3 ANS 31a 32b Q 57 A 4 ANS and REP 2 38a 39a A 5 REP 3 39a-40a A 11 ANS and REP 3 40 41a Q 58 A 4 ANS 44a d A 5 ANS and REP 1 44d 45c

3 The interdependence of prudence and the moral virtues the practical virtues by which liberation will and emotion in human conduct

4 HOMER *Odyssey* 183a 322d c p BK IV [265 295] 201d 202a BK V [28 493] 210d 213a c BK XII 250a 254d BK XIII [185 440] 257a 259d BK XV 272 276d

5 ARISTOTLE *Practical Ethics* Bound 40a 51d esp [259-398] 42d-44a [930-993] 50a 51d

5 Socrates *Phaedrus* 182a 195a c esp [50-134] 182d 183c

5 EURIPIDES *Hippolytus* [373 387] 228b c / *Phoenician Maidens* [697 747] 384a d

6 HERODOTUS *History* BK VIII 269c 270a

6 THUCYDIDES *Peloponnesian War* BK I 370a BK 389d 390b BK IV 474a c

7 PLATO *Protagoras* 48a 50d 58a 64d / *Meno* 174d 176 183d 184d

9 ARISTOTLE *Ethics* BK II CH 2 [110<sup>3b</sup>7-1 4 9] 340b c CH 6 351 352d pas in BK VI CH 1 3 393b 394d BK VII H 9 [115<sup>1b</sup>29]-CH 10 [115<sup>2b</sup>41] 402b-403b K X CH 8 [178 16-19] 432d

12 AURELIUS *Meditations* BK 5 T 5 257b c

13 VERGIL *Aeneid* BK VI [18 25] 259b

19 AQUINAS *Summa Theologica* PART II Q 113 A REP 2 576 d

20 AQUINAS *Summa Theologica* PART II Q 57 A 4 AN 38a 39 A 5 AN 39a 40a Q 58 AA 4-5 44a 45 Q 6 54d 59d

23 HOBBES *Leviathan* PART 64 c 65b

25 MONTAIGNE *Essays* 20d 22 159a 162c

26 SHAKESPEARE *Julius Caesar* ACT II SC 1 [60-69] 575

27 SHAKESPEARE *Hamlet* ACT IV SC IV [32-66] 59a

29 CERVANTES *Don Quixote* PART II 256 d 291d

30 BACON *Ad cement of Learning* 86 95b

31 D'ARTES *Discourse* ART 48b 51b

35 LOCKE *Human Understanding* BK CH XXI SECT 46-54 189d 192 T 69 196d 197a

37 FENG *Tom Jones* 5 45b c 395 396a

42 KANT *Foundations of Metaphysics of Morals* c 261c d 266a 267d / *Practical*

- (3) *The interdependence of prudence and the moral virtues: the parts played by deliberation, will and emotion in human conduct*)

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- 46 HEGEL *Philosophy of Rights* PART II par 114 42a b / *Philosophy of History* INTRO 165a 166b

- 49 DARWIN *Descent of Man* 310c 313a esp 311b-d

- 51 TOLSTOY *War and Peace* K V 211a 213a BK VI 235a

- 53 JIMMY PROLOGUE 13a 15a passim esp 14b 15a 79a 80a 80a passim

- 3a Moral virtue as determining the end for which prudence makes a right choice of means: right desire as the standard of practical truth

- 8 ARISTOTLE *Topics* BK III CH I [116<sup>b</sup>22 26] 163b

- 9 ARISTOTLE *Ethics* BK II CH 2 [1103<sup>b</sup>27-1104<sup>a</sup>9] 349b-c K VI CH 2 387d 388b CH 5 [1140<sup>a</sup>19] 389b-c CH 9 [1142<sup>b</sup>17 34] 391d 392b CH 12 [1144 6-37] 393d 394a CH 13 [1144<sup>b</sup>30-1145 6] 394c d / *Politics* BK VII CH 13 [1331<sup>b</sup>24-38] 536b-c

- 14 PLUTARCH *Pericles* 121a 122b

- 19 AQUINAS *Summa Theologiae* PART I Q 113 A 1 REP 2 576a d

- 20 AQUINAS *Summa Theologiae* PART I Q 56 A 2 REP 3 30c 31a A 3 ANS 31a 32b A 4 REP 4 32b 33c Q 57 A 4 ANS 38a 39a A 5 ANS and REP 3 39a-40a Q 58 A 3 REP 2 43b 44a A 4 ANS and REP 44a d A 5 44d-45c Q 65 A 1 ANS and R 3 4 70b 72 A 2 AN and REP 3 72a d A 3 ANS and REP 2 72d 73d PART II II Q 181 A 2 617d 618c

- 25 MONTAIGNE *Essays* 52c 53

- 42 KANT *Pure Reason* 235a b / *Fundamental Principles of Metaphysics* 256a b 259c 260c 266b 267d 268b 271d 279d esp 271d 272b 274d 275b / *Practical Reason* 305d 307d 318c d 357c 360d / *Preface Metaphysical Elements of Ethics* 376c 377d / *Intro Metaphysics of Morals* 387d 388a

- 43 MILL *Utilitarianism* 456d-457b passim

- 46 HEGEL *Philosophy of Right* PART I par 22 44a par 14 49b 54a

- 3b Prudence as factor in the formation and maintenance of moral virtue: the determination of the relation of the subject to the end

- 7 PLATO *Protagoras* 61c 62a / *Meno* 183d 184c / *Phaedo* 226a b / *Republic* BK X 439b d / *Laos* BK I 643c d

- 9 ARISTOTLE *Ethics* BK II CH 2 [1103<sup>b</sup>27-1104<sup>a</sup>9] 349b-c CH 5 351c 352d passim esp [1106<sup>b</sup>36-1107<sup>a</sup>2] 352c CH 9 354d 355 c

BK V CH 9 [1137<sup>a</sup>5 26] 385b-c BK VI CH 5 389a = CH 9 [1142<sup>b</sup>17 34] 391d 392b CH 13 393b 394d BK X CH 8 [118 16-19] 432d

- 12 EPICETUS *Discourses* BK III CH 12 13 b 188b

- 17 AURELIUS *Meditations* BK VI SECT 16 275b-d

- 18 AUGUSTINE *City of God* BK IX CH 4 28 288b

- 19 AQUINAS *Summa Theologiae* PART I Q 13 A 1 REP 2 576a d

- 20 AQUINAS *Summa Theologiae* PART I Q 56 A 2 REP 2 30c 31a Q 57 A 5 39a-40a Q 58 A 2 42a-43a A 4 44a d Q 65 A 1 70b-7 a

- 29 CERVANTES *Don Quixote* PART II 256c-d 291d

- 30 BACON *Advancement of Learning* 79b-c 86b-95b

- 31 DESCARTES *Discourse* PART III 48b 51b

- 33 PASCAL *Pensées* 359 235a 378 381 238a b

- 37 FIELDING *Tom Jones* 45b c

- 42 KANT *Practical Reason* 305d 307d / *Preface Metaphysical Elements of Ethics* 365b-d 376c 377d / *Intro Metaphysics of Morals* 387d 388a

- 46 HEGEL *Philosophy of Right* PART II par 140 49b 54a

- 3c Shrewdness or cleverness as the counterpart of prudence: the abuses of casuistry

- 5 ARISTOPHANES *Frogs* [534-541] 570b

- 6 HERODOTUS *History* BK III 98d 98b IX VIII 279d 280b

- 6 THUCYDIDES *Peloponnesian War* BK VII 575b d 584b 585a

- 9 ARISTOTLE *Ethics* BK VI CH 12 [1144 12] CH 13 [1144<sup>b</sup>16] 393d 394b BK VII CH 10 [1152<sup>a</sup> 8 15] 403a

- 14 FLUTARCH *Araetius* 829b-d

- 20 AQUINAS *Summa Theologiae* PART I Q 56 A 4 REP 2 44a d Q 93 A 6 REP 2 219d 220d

- 21 DANTE *Divine Comedy* HELL, XCVI [55 15] 40a-41b

- 23 MACHIAVELLI *Prince* CH XVIII 25a b

- 23 HOBBES *Leviathan* PART I 68a

- 27 SHAKESPEARE *Othello* ACT I SC III [102 410] 212b 213a

- 33 PASCAL *Provincial Letters* 27a 127a

- 36 SWIFT *Gulliver* PART II 75b-76a

- 40 GIBSON *Decline and Fall* 142c

- 41 GIBSON *Decline and Fall* 532d 533

- 51 TOLSTOY *War and Peace* BK V 20-206a 228b 230c BK X 424a c BK XI 476c 480a

- 3d Prudence, continence and temperance

- 7 PLATO *Charmides* 7a c / *Protagoras* 59b 6 b / *Me* 183d 184c

- 9 ARISTOTLE *Ethics* BK II CH 13 [1103 3 1] 348c d BK III CH 12 [1119 35 19] 366a c BK VI CH 5 [1140<sup>a</sup>11 19] 389b-c CH 9 [114-17 34] 391d 392b BK VII CH 1 [1145 1, 19] 395c CH 2 3 395c 398a esp CH 2 [1145 21]

- 1 46<sup>s</sup> 395c 396a CH 4 [114<sup>s</sup> 4 22] 398b-c  
 CH 11 399d-400c CH 8-10 401c-403c esp CH 10  
 [ 52<sup>7</sup>- 4] 403a b CH 11 [115<sup>s</sup> 15-18] 403d  
 CH 12 [115<sup>s</sup> 1-1 3] 404c [1153<sup>27</sup> 35] 404c d  
 18 AUGUSTINE *City of God* BK XIX CH 4 512a  
 20 AQUINAS *Summa Theologica* PART I Q 58  
 A 2 ANS 42a-43a A 3 R P 2 43b-44a Q 65  
 1 70b-72a  
 23 MONTAIGNE *Essays* 312c 314b  
 32 MILTON *Paradise Lost* BK XI [334 369] 306b-  
 307 [527-551] 310b 311a / *Samson Agonistes*  
 [35-59] 340b  
 38 MONTESQUIEU *Sp. nat. of Laws* BK XXVIII  
 259b

# 5a The vices of imprudence precipitance and undue caution

- OLD TESTAM. NT GEN. 25 29-34 / *Proverbs*  
 7 6-27 14 16 29 18 3 19 2 20 21 25 8  
 29 11 / *Ecclesiastes* 5 12 3 7 9-(D) *Ecclesi-*  
*astes* 5 1-2 7 10  
 APOCRYPH. *Ecclesiasticus* 2 4 29 6 7-8 8 19  
 9 8 9 4 8-9 20 8 21 25 26 28 11 30 24-  
 (D) OT *Ecclesiasticus* 2 2 4 34 6 7-8 8 22  
 9 25 19 4 8-9 2 8 21 28 29 28 13 30 26  
 NEW TESTAM. NT MATTHEW 3 19-23 / *Mark*  
 4 3 6 / *Luke* 8 5 15 / *Acts* 19 36  
 4 HOMO. *Iliad* BK I [1-492] 3a 8a BK IV [ 172]  
 57a 58d / *Odyssey* BK X [46-54] 234d  
 234d BK XII [ 60-419] 252d 254c  
 5 AELIUS PERILLUS *Pernia* 15a 26d esp [739-786]  
 23a-c / *Severan Agrippa* 27 39a-c esp  
 [631-719] 34a 35 / *Prometheus Bound* 40a  
 51d esp [259-398] 42d-44a [930-1 93] 50a 51d  
 5 SOHO. *L. O d pus the King* 99a 113 /  
*A. nigone* 131a 142d esp [633 767] 136c 137d  
 / *A. r* 143 155a-c esp [654-683] 148d 149a  
 [748-783] 149c d / *Electra* 156a 169a-c esp  
 [ 31 493] 157b 159b [938 57] 163c 164d /  
*Philoctetes* 182 195 c  
 5 EURIPIDES *Rhesus* 203a 211d esp [ 1 148]  
 203a 204c / *Suppliants* [465-510] 262b d /  
*Bacchantes* 340 352 c esp [215 433] 341d  
 343b / *Phoenician Maidens* [443-593] 381d  
 383  
 6 HESIODUS *Hesiodus* 94c d 97b c  
 K VI 216d 218b 225c d  
 6 THUCYDIDES *Pl. p. n. s. a. Wa* K I  
 370a c BK II 393a 402 404d esp 402 d  
 403b c K IV 449b-c 462d 463a BK V  
 507 BK V 545b-c  
 7 PLATO *Protagoras* 62b-64a  
 9 ARISTOTLE *Ethics* BK CH 2 [ 1 4 10-26]  
 349c d K VI CH 5 [1140 3 9] 389b CH 9  
 [ 1 42<sup>17</sup> 34] 391d 392b BK V CH 6 399d  
 400c c 9 [1151 8-b 6] 402b e / *Rhetoric*  
 BK I CH 12 [1389<sup>21</sup> c 4] [ 39 111] 636b  
 638a  
 11 VIRGIL *Aeneid* K VII [572-6 0] 252a b K  
 XI [36-444] 338b-340a  
 11 PLUTARCH *Pericles* 154d / *Plutarchus*  
 232a 233a 244c 245a / *Plutarchus* 104d

- 262c / *Vacius* 423a-438d / *Alexander* 547b-  
 548a / *Caesar and Tiberius Gracchus Agrius*  
*Cleomenes* 690c-691a c  
 15 T. CITUS *4 nals* BK III 61b / *Hieronymus* BK  
 I 205d 206a BK III 252c  
 20 AQUINAS *Summa Theologica* PART I II Q  
 108 A 3 REP 5 331a 336b  
 21 D. NTE *Comic Comedy* HELL, XXVI [49 142]  
 38c 39c  
 22 CALIGULA *Troilus and Cresinda* BK III STANZA  
 42 47 60a E STANZA 129 71a b / *Ninus*  
*Princes Tale* 450a-460b esp [ 15 273 452]  
 457b-460b / *Marcellus Tale* [ 17 206-311]  
 491b-493b  
 23 MACHIAVELLI *Prince* CH XXV 36b  
 23 HOES *Letatha* PART I 77d 79c d  
 25 MONTAIGNE *Essays* 22d 23b 53c 55d  
 174a d  
 26 SHAKESPEARE *Romeo and Juliet* ACT III  
 III 304d 306d / *1st Henry VI* ACT I SC III  
 437d-440d ACT II SC III 443b 444b ACT III  
 SC I [147 190] 451c-452a ACT IV SC III [ 29]  
 459b c  
 27 SHAKESPEARE *Hamlet* 29a 72a c esp ACT IV  
 SC IV [33-66] 59a c / *Troilus and Cressida*  
 ACT III SC III [184 241] 124b 125a / *Othello*  
 205a 243a c esp ACT V SC II [338 356] 242d  
 243a / *King Lear* 244a 283a c / *Coriolanus*  
 351a 392 c esp ACT III SC II III 373c 377a /  
*Timon of Athens* 393a 420d esp ACT II SC II  
 400 403b / *Henry VIII* ACT I SC I [122 149]  
 551b c SC II [68 88] 553c d  
 29 CERVANTES *Don Quixote* PART I 8c 10a  
 116a 117b PART II 252c 257a 291d  
 30 BA. ON *Locum Organum* BK I APPI 92  
 125b d  
 33 PASCAL *Pensées* 172 203b  
 36 STERN *Stram Shandy* 203a 207b  
 44 BOSWELL *Johnson* 149b c  
 48 MELVILLE *Moby Dick* esp 148b 150a  
 51 TOLSTOY *War and Peace* BK I 15d 18b BK  
 III 139a c BK V 211a 213a K VIII 321d  
 322d 328c 333a 334d 335a 336b 337d BK  
 IX 344b 346a 366d 367b BK X 426b BK  
 XI 569d 570b BK XIV 596c d 603a 604b  
 OGUE 655c 656b  
 52 DO. OEVSKY *Bothers Karamazov* BK X  
 273 d  
 53 J. S. P. *h. logy* 799b 807a passim esp  
 800 801a 806b 807a

# 4 The sphere of prudence

## 4a The confinement of prudence to the things with a our power the relation of prudence to free will choice and deliberation

- 9 ARISTOTLE *Ethics* BK III CH 2 3 357b 359a  
 BK VI [ 1139<sup>32</sup> 111] 388a b CH 5 [114<sup>4</sup>  
 31<sup>5</sup>] 389a b CH 7 [1141<sup>8</sup> 11] 90c  
 12 EPICTETUS *Discourses* BK I CH I 105a 106c  
 CH 8 124a 125a CH 29 134d 138a BK II CH



(4 The sphere of prudence 4a The confinement of prudence to the things within our power  
the limitation of prudence to free will choice and deliberation)

5 142c 144a CH 10 148c 150a CH 23 170a 172d BK III CH 2 177c 178d CH 10 185d 187a CH 18 192a ■ BK IV CH 1 213a 223d  
■ AURELIUS *Meditations* BK II SECT 6 257c SECT 9 257d SECT 11 258a ■ SECT 16 259a BK V SECT 19 272a SECT 34 273c BK VI SECT 16 275b d SECT 22 276a BK VII SECT 16 280d BK VIII SECT 16-17 286d SECT 28 287c SECT 48 289 BK IX SECT 7 292b BK X SECT 34 301a ■ BK XII SECT 3 307b d  
19 AQUINAS *Summa Theologiae* PART I Q 13 AA 4-6 675a 677b Q 14 AA 3-6 678c-681a  
■ AQUINAS *Summa Theologiae* PART I Q 57 AA 4-6 38a 41a  
23 MACHIAVELLI *Prince* CH XXV 35a b  
23 HOBBS *Leviathan* PART I 53c d  
25 MONTAIGNE *Essays* 52c 53c 100a 101c 136b 139b 393b 394 451d 452d 514d 515a  
30 BACON *Advancement of Learning* 76d 78a  
31 D SCARTES *Discourse* PART III 48b 51b  
35 LOCKE *Human Understanding* BK II CH XVI SECT 48-54 190c 192c passim SECT 57 193b-c  
42 KANT *Fund. Princ. Metaphys. of Morals* 266c 267d / *Practical Reason* 318c 321b esp 320c 321b 357c 360d  
53 JAMES *Psychology* 199b 201b

4b The restriction of prudence to the consideration of means rather than ends

9 ARISTOTLE *Ethics* BK V CH 9 [1137 26] 385b ■ BK VI CH 5 389a c CH 9 [1142 17 34] 391d 392b CH 11 [1144 6-37] 393d 394a CH 13 [1148 30-1145 6] 394c d / *Rhetoric* BK I CH 9 [1366 20-22] 609a  
■ AQUINAS *Summa Theologiae* PART I Q 14 A 2 678b-c Q 15 A 3 682c-683b  
■ AQUINAS *Summa Theologiae* PART I Q 57 A 5 ANS 39a 40a Q 58 A 4 ANS 44a d A 5 R ■ 1 44d-45c  
42 KANT *Fund. Princ. Metaphys. of Morals* 266b 267d  
53 JAMES *Psychology* 796a b

5 The nature of a prudent judgment

5a The conditions of prudent choice counsel deliberation judgment

OLD TESTAMENT *Psalms* 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100  
APOCRYPHA *Tobit* 4 8-(D) *OT Tbars* 4 19 / *Ecclasticus* 1 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100  
5 ARISTOTLE *Sitipia* 333-523 5a 7 / *Peripat* 737-786 23a-c  
5 SOPHOCLES *Antigone* 633-767 136c 137d

5 EURIPIDES *Rhesus* [1 148] 203a 204c / *Sophocles* [465-510] 262b d / *Phoenician Maidens* [443-593] 381d 383a [697-747] 381a d / *Iphigeneia at Aulis* [378 414] 428b-c  
5 ARISTOPHANES *Birds* [366 382] 546d 547a  
6 HERODOTUS *History* BK I 31c d 46c d BK VII 217a 218c 219a-c 258d BK VIII 259c 270a  
6 THUCYDIDES *Peloponnesian War* BK I 383d 384a BK II 397b ■ BK III 427a c  
7 PLATO *Meno* 183d 184c 188b-189a / *Republic* BK III 337b 338a BK X 439b-441a c  
9 ARISTOTLE *Ethics* BK I CH 3 [1094 1095 12] 340a b CH 4 [1095 30-112] 340c d BK III CH 2 335b 359a BK V CH 9 [1137 26] 385b ■ BK VI CH 5 389a ■ CH 7 [1142 23] 390c d CH 8 [1142 13 2] 391b CH 9-11 391c 393b  
12 EPICTETUS *Discourses* BK III CH 618d 18 b  
12 AURELIUS *Meditations* BK IV SECT 12 20c  
14 PLUTARCH *Timoleon* 197c 198a  
15 TACITUS *Historiae* BK II 234b  
19 AQUINAS *Summa Theologiae* PART I Q 21 A 1 127d 128d ■ 83 A 1 ANS 436d-438a A 3 ANS and REP 2 3 438d 439c PART II Q 13 A 1 672d 673c A 3 ANS 674c-675a Q 14 677b-681a Q 44 A 2 808b-d A 4 ANS 809c 810a  
■ AQUINAS *Summa Theologiae* PART I Q 5 A 4 REP 3 38a 39a A 5 ANS and REP 2 39a 40a A 6 40a-41a  
22 CHAUCER *Troilus and Criseida* BK I ATENA 90-93 12b 13a / *Tale of Melibeie* 401a 432a esp par 7 13 402b-403a par 17 31 407b-414a par 59-78 427a-432a  
23 HOBBS *Leviathan* PART I 53a 53-d 60c d 64a ■ 65a ■ 66c 68a 77d  
25 MONTAIGNE *Essays* 393b 394a 450d-451a 520b 522d  
26 SHAKESPEARE *Comedy of Errors* ACT III 1 95 106 157b  
27 SHAKESPEARE *Troilus and Criseida* ACT II SC 11 113c 115d  
29 CERVANTES *Don Quixote* PART II 235d 237a  
30 BACON *Advancement of Learning* 86c 95b  
33 PASCAL *Provincial Letters* 39a / *Pemises* 381 383 238b  
35 LOCKE *Human Understanding* BK II CH XVI SECT 48 190c d SECT 53 191d 192b SECT 57 193b c  
35 HUME *Human Understanding* SECT V DIV 36 465a d [in 1]  
42 KANT *Fund. Princ. Metaphys. of Morals* 266b c / *Practical Reason* 318c 321b 357c 360d  
43 FEDERALIST NUMBER 2 32b d NU 122 8 46d-47a  
43 MILL *Liberty* 276b 277a 287b-c 295a / *Representative Government* 410c d / *Utilitarianism* 456a-457b  
44 BOSWELL *Journals* 149b-c

- 46 H GE *Philosophy of Right* PART III par 27 74b d
- 51 TO TOY *War and Pac* BK V 211a 213a BK VI 235a
- 53 JAMES *Psychology* 13a 15a 794a 798b esp 796 b 797b-798a
- 54 FR UD *General Introduction* 624d 625b
- 5b The acts of the practical reason = matters open to choice decisions and command leading to execution or use
- 8 ARISTOTLE *Soul* K CH 10 [433 3 31] 665d 666a
- 9 ARISTOTLE *Ethics* K I CH 2 [103<sup>b</sup> 7 1104<sup>g</sup>] 349b c BK III CH 2 3 357b 359a BK VI CH 387d 388b CH 7 [1141<sup>b</sup> 8 23] 390c d H 10 [143 4 10] 392b c CH 12 13 393b 394d BK VII CH 2 395 396c esp [1145<sup>b</sup> 20-1 46 8] 395c 396 CH 10 [1152 8 24] 403a b
- 19 AQUINAS *Summa Theologica* PART I Q 22 A 1 ANS and REP I 2 127d 128d PART I Q 17 686b d 693d
- 20 AQL AS *Summa Theologica* PART I II Q 57 A 6 ANS and REP 40a-41a Q 61 A 3 AN 56b 57a
- 27 SHAKS *Hamlet* ACT IV SC V [33 66] 59a c
- 38 ROUSSEAU *Social Contract* K III 409d
- 42 KANT *Fundamental Principles of Metaphysics of Morals* 260a c 255c 267d esp 266 267d / *Practical Reason* 305d 307d 314d 321b
- 46 H G L *Philosophy of Right* PT I par 38 21d A TIT par 214 71a c
- 51 T LSTOV *Walden* K VI 235a K K 411-412d 421c-426a 440-442c 459d 461d BK X 488-489 K XII 536b BK XI 584c 585 586d 587d EPILOGUE I 654a 655c H O UR II 685a
- 52 J MES *Psychology* 794a 798b esp 797b 798a
- 5c The maxims of prudence
- OLD TESTAMENT *Proverbs* passim / *Ecclesiastes* passim
- APOCRYPH A E *Leviticus* 43 passim—(D) OT *Ecclesiastes* 43 passim
- NEW TESTAMENT *Matthew* 6 10-34 / *Luke* 2 3 32 / *Acts* 9 36 / *I Corinthians* 7 29-35 / *Ephesians* 5 5-16 / *Philippians* 4 6 / *I Peter* 5 7
- AE CHYLUS *Sextus Aegyptius Theophrastus* [631-7 9] 34a 35a / *Prometheus Bound* [59-398] 42d-44a [587-906] 49 d [930-1 93] 50a 51d
- 5 SO HOLES *Antigone* [1-99] 131 132a / *Electra* [12 403] 157b-159b [938 57] 163 164d
- 6 HRODOTUS *History* K II 225b 26a BK VIII 269 270a
- 6 THYRIDES *Peloponnesian War* K 370 c BK V 507
- PLUTARCH *Pericles* 131b-c
- 22 C AUCER *Tronius and Cressida* BK I STANZA 101 118 14a 16b STANZA 136-139 18b 19a BK III STANZA 33 236 85a b
- 23 HOBBS *Leviathan* PART I 53a
- 25 MONTAIGNE *Essays* 51a 55d esp 52c 53c 136b 139b 174 d
- 26 SHAKS *Henry V* ACT I SC II [183 220] 535d 536b
- 27 SHAKS *Hamlet* ACT I SC III [59-80] 35a
- 29 CRYSTIES *Don Quixote* PART II 331d 333b
- 30 BACON *Advancement of Learning* 81d 95b
- 31 D SCARTES *Discourse* ART III 48b 51b
- 31 SPINOZA *Ethics* PART IV PROP 45 SCHOL 438b
- 35 HUMS *Human Understanding* SECT V DV 36 465d [fn 1]
- 43 MILL *Representative Government* 345b 410c d
- 6 Prudence in relation to the common good of the community
- 6a Political prudence the prudence of the prince or statesman of the subject or citizen
- OLD TESTAMENT *Genesis* 41 33-41 / *I Kings* 3 6 8—(D) III K 3 16-28 / *Proverbs* 1 14 20 18 28 3 1-3 24 6 2 6-7 9 12 3 4-5 / *Ecclesiastes* 8 2 4
- APOCRYPH *Tobias* 12 7—(D) OT *Tobias* 2 7 / *Ecclesiasticus* 10 3—(D) OT *Ecclesiastes* 10 1 2 3
- 4 HOER *Ilad* BK I [1 492] 3a 8a BK IX [172] 57a 58d
- 5 AECHYLUS *Sophrone Maidens* [333-523] 5a 7 / *Perseus* 15a 26d esp [732-786] 23a
- 5 SOHOLES *Oedipus the King* [1-5] 99a 103d / *Antigone* [1-99] 131 132a [633 767] 136 137d / *Philoctetes* 182a 195a c esp [50-134] 182d 183c
- 5 EURIPIDES *Rhesus* 203a 211d esp [48] 203a 204c / *Suppliants* [3-597] 259a 263c / *Bacchantes* [266-27] 342a b / *Phoenician Women* [443-593] 381d 383 [697 747] 384d d / *Orestes* [682 716] 400d 401 / *Iphigenia at Aulis* 425a-439d esp [1-54] 425a-429d
- 5 ARISTOTLES *Aethiopica* [480-57] 460d 461c [97-999] 466c d / *Knights* 470a 487a b sp [316-1408] 486 487a c / *Frogs* [686-737] 572 d [417 514] 581 582 / *Lysistrata* [4-6] 590a 591
- 6 HRODOTUS *History* BK 6a b 41c d BK III 97b BK V 216d 218 225a 226b 242a b 245d 246b
- 6 THYRIDES *Peloponnesian War* K 365c 367a 370 383d 384 BK 389d 391b 393a c 397b c K 427a c 436d 438b BK V 451a 462d-463a 474 c BK V 483-485b 507a K VI 511 516 K VI 545b c BK VI 564a-c 569 570 574d-575d

- (6 *Prudence in relation to the common good of the community* 6a *Political prudence the prudence of the prince or statesman of the subject or citizen*)
- 7 PLATO *Protagoras* 43a b / *Meno* 174d 176a / *Statesman* 604c 608d / *Laus* bk iii 669b 670c bk iv 754a b bk xii 785d 786b / *Seventh Letter* 806d 807b 813d 814d
- 9 ARISTOTLE *Ethics* bk vi ch 5 [1140<sup>b</sup> 11] 389b ch 8 [1141<sup>b</sup> 23 1142 12] 390d 391a bk x ch 9 434a 436a c / *Politics* bk iii ch 4 473c 475a ch 11 479b-480c bk iv ch 14 498b-499c bk v ch 8 11 509d 518c bk vii ch 2 3 528a 530a
- 11 EPICTETUS *Discourses* bk iii ch 7 182b 184a
- 12 AURELIUS *Meditations* bk iii sect 5 261a bk iv sect 4 264a bk v sect 16 271c d bk vii sect 5 280a b bk ix sect 23 293c bk x sect 6 297a b bk xi sect 8 303a
- 13 VIRGIL *Aeneid* bk xi [296-444] 336a 340a
- 14 PLUTARCH *Pericles* 129a 141a c / *Alcibiades* 167 168a / *Alexander* 540b d 576d passim / *Phocion* 604b d 605d / *Camillus* and *Tiberius Gracchus* Ag 1 and *Cleomenes* 689b d 691 c / *Demetrius* 736 737b / *Dion* 781b d / *Brutus* *Dion* 824b d 826a c
- 15 TACITUS *Annals* bk iv 72b 73a bk xvi 176b d / *Historiae* bk i 193d 211c 212b bk iii 247a
- 19 AQUINAS *Summa Theologiae* PART I Q 22 A 1 ANS 127d 128d
- 21 DANTE *Divine Comedy* HELL xxvii [55 136] 40a 41b PARADISE XII [88 111] 126b c
- 23 MACHIAVELLI *Prince* 1a 37d
- 23 HOBBS *Leviathan* PART I 60d 61a 67d 68a
- 25 MONTAIGNE *Essays* 51a 55d 381a 388c 451d-452d 488b 489b 490d 491d
- 26 SHAKESPEARE *1st Henry IV* ACT III SC II [29-84] 453b-d / *2nd Henry IV* ACT I SC III 472d-474a / *Julius Caesar* ACT I SC I [54-191] 576a c ACT IV CI 587a c
- 27 SHAKESPEARE *Antony and Cleopatra* ACT II SC I [1 27] 318c d / *Coriolanus* 351a 392 c esp ACT II SC III [53 160] 366c 367c ACT III SC I [28-92] 373d 374c
- 29 CERVANTES *Don Quixote* PART II 331a 333b 340d 343a 353b-356d 361a d
- 30 BACON *Advancement of Learning* 4c 6c 20d 26a 74b-c 81d 82a 94b 95b
- 35 LOCKE *Civil Government* CH X II SECT 56-158 61a 62b
- 36 SWIFT *Gulliver* PART I 7b 8a 28b 29b PART III 112 115b
- 38 MONTESQUIEU *Spirit of Laws* bk vi 39b 374a / *Social Contract* bk iii 409d
- 39 SMITH *Wealth of Nations* bk i 109d 110d bk ii 126a
- 40 GIBSON *Decline and Fall* II 1b 2a passim 50a 331b 332d 609d 610a 645a
- 41 GIBSON *Decline and Fall* 168c
- 43 FEDERALIST NUMBER 5 37d NUMBER 96b NUMBER 31 105b c NUMBER 40 130c 132a NUMBER 62 190d 191a NLN II 4 222b d
- 43 MILL *Representative Government* 334b-c
- 44 BOSWELL *Johnson* 255a 256a
- 46 HEGEL *Philosophy of Right* II PT III par 2 92a ADDITIONS 166 145b-c / *Philosophy of History* PART II 271d 272a PART I 361d 362a
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 see CITIZEN 5 GOVERNMENT 3d LAW 5d 5g MONARCHY 3a STATE 8d

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the  
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- I Works by authors represented in this collection  
 II Works by authors not represented in this collection

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## Chapter 74 PUNISHMENT

### INTRODUCTION

THE problem of punishment divides into a number of questions. In what does punishment consist? What purpose should punishment serve or what should be its principle or reason? Who has the authority to punish and under what conditions shall this authority be exercised? Who shall be punished and who shall be exempt from punishment? What are the forms or kinds of punishment? Are any of these reprehensible either in principle or for their consequences? Should there be a proportion between the severity of punishment and the gravity of the offense? Can a person punish himself? Do men desire to be punished?

These questions apply though not with equal emphasis to the three major types of wrongdoing in relation to which men discuss the nature and the need of punishment: its justice or its expediency. Punishment is traditionally considered in relation to vice, to crime and to sin. According to the type of wrongdoing being considered the punitive agent may be the wrongful individual himself or his family, his state, his church or God.

The lines which separate these areas of the problem of punishment cannot be sharply drawn in all cases, for as certain acts simultaneously violate the moral, the civil and the divine law, they may also cause a person to be simultaneously subject to punishment from diverse sources. The wrong or injury which punishment is supposed to redress may in some cases fall under none of these headings, as for example acts of war or rebellion. It is sometimes questioned whether the theory of punishment remains the same when punitive steps are taken by one state against some or all the people of another, or again when a government applies penalties for a rebellion engaged in by members of its own community.

In this chapter we shall deal with the prob-

lem of punishment in its most general terms, for the most part considering the foregoing questions without regard to the distinction of sin, crime and vice, or to the differences between divine and human punishment, or between punishment by the state and in the family (i.e. punishment as involved in the enforcement of law and punishment as an instrument of education or training). These more specialized topics belong to other chapters, e.g. punishment as affecting the formation of character to the chapters on EDUCATION and VIRTUE AND VICE; punishment as administered by parents to the chapter on FAMILY; divine rewards and punishments to the chapters on IMMORTALITY and SIN.

The basic ideas in terms of which any discussion of punishment proceeds are of course the subjects of the chapters on JUSTICE and LAW. One other chapter—PLEASURE AND PAIN—is of peculiar relevance to the question about the nature of punishment. Concerning the nature of punishment there seems to be no great difference of opinion in the tradition of western thought. Punishment is generally conceived as the infliction of pain, though some write it distinguish between corporeal and spiritual punishment according as the pain inflicted is the pain of sense or the pain of deprivation and loss. Imprisonment, for example, always entails the pain of loss—the loss of freedom—but it may also carry with it the suffering of physical hardships or even tortures. The torment of the damned is according to some theologians, both corporeal and spiritual—the agony of hell fire and the anguish of the soul deprived of God's love and presence.

IF THERE IS LITTLE DISPUTE about the nature of punishment, the opposite situation prevails concerning its purpose. Why men should be

punished is one of the most controversial questions in the field of moral and political thought and in psychology and theology as well

The major opposition in the tradition of the great books is between those who think that punishment need only be inherently just and those who think it cannot be justified without reference to its utility or expediency. While this debate goes on for more than twenty centuries, punishments in actual practice—whether in accordance with the law or unconstrained by it—tend generally to be severe and often fiendish or ferocious. Not until Beccaria in the 18th and Bentham in the 19th century does the discussion of punishment lead to major reforms in the spirit and provisions of the penal codes. But the opposite positions in the debate across the centuries are never without practical significance for penal institutions and punitive measures even when theory is not immediately reflected in practice. The speculative significance of the issue is however always immediately apparent. Although justice and law are more fundamental and comprehensive ideas than punishment, this one problem of punishment—the question of its purpose—critically tests the meaning of anyone's theory of law and justice.

It may be that the issue cannot be fairly stated in terms of *purpose*. To use that word may beg the question, since one of the basic positions in the controversy appears to be that punishment has no purpose in the sense of *serv-ing some end beyond itself* or producing some desired consequence *in the future*. This is the theory—shared by Kant and Hegel—that punishment should be purely retributive.

According to this view the effect of the punishment upon the wrongdoer or upon others whose conduct may be affected by punishments meted out or threatened must not be taken into account at all. Nothing should be sought except the preservation of the balance sheet of justice by seeing that every wrong is duly requited by a proportionate measure of punishment. Nor is the requital purely retributive if it considers any person except the wrongdoer himself. That punishment of the transgressor may assuage the feelings of those he has injured or even satisfy a desire for revenge should have no motivating force. The only pleasure the spectacle of punish-

ment should yield, the only desire it should satisfy is that of seeing the moral law upheld. We should punish only because we have under the moral law a duty to do so.

Kant castigates as utilitarian every theory of punishment which directs it to the service of anything besides strict justice—such as the reformation of the criminal, the deterrence of others, the welfare of society or the slaking of the thirst for vengeance. Juridical punishment he says can never be administered merely as a means for promoting another good either with regard to the Criminal himself or to Civil Society but must in all cases be imposed only because the individual on whom it is inflicted *has committed a Crime*. The Penal Law is a Categorical Imperative and woe to him who creeps through the serpent windings of Utilitarianism to discover some advantage that may discharge him from the Justice of Punishment or even from the due measure of it.

What shall determine the mode and measure of punishment? Kant answers: It is just the Principle of Equality by which the pointer of the Scale of Justice is made to incline no more to one side than the other. It may be rendered by saying that the undeserved evil which anyone commits on another is to be regarded as perpetrated on himself. This is the Right of Retaliation (*iustalouis*) and properly understood it is the only Principle which can definitely assign both the quality and the quantity of a just penalty. All other standards are wavering and uncertain and on account of other considerations involved in them they contain no principle conformable to the sentence of pure and strict Justice.

RETRIBUTIVE PUNISHMENT or retaliation seems to express the principle of justice or fairness in exchange. The Mosaic injunction that thou shalt give life for life, eye for eye, tooth for tooth, burning for burning, wound for wound, stripe for stripe occurs in the context of other passages which declare the compensation in goods which an injured party shall receive for the loss of or damage to his chattel. But it is also accompanied by ordinances which impose the death penalty for wrongs other than the taking of a life.

You have heard Christ declares in the Sermon on the Mount that it hath been said An eye for an eye and a tooth for a tooth But I say unto you That ye shall resist not evil but whosoever shall smite thee on thy right cheek turn to him the other also And if any man will sue thee at the law and take away thy coat let him have thy cloak also This passage has sometimes been taken to mean that all punishment is simply vengeance and that instead of returning injury for injury the Christian should love his enemies and forgive them If you think someone has wronged you Princess Mary says to Prince Andrew in *War and Peace* forget it and forgive! We have no right to punish

But the Christian view of punishment may not be the same when the punishment of the evildoer is a question for the state rather than for the individual Avenge not yourselves St Paul commands for it is written Vengeance is mine I will repay saith the Lord The individual need not avenge himself for God punishes the wicked not only God but the ruler of the earthly state who St Paul says is the minister of God to thee for good But if thou do that which is evil be afraid for he beareth not the sword in vain for he is the minister of God a revenger to execute wrath upon him that doeth evil

A life for a life appears to be the symbolic statement of the *lex talionis* in the Greek as well as the Hebrew tradition Justice claims aloud her debt the Chorus explains in the *Choephoroe* of Aeschylus Who in blood hath dipped the steel, deep in blood her meed shall feel Whosoever shall take the sword shall perish by the sword But as Aristotle points out—and similarly Aquinas in his comment on the *lex talionis* of the Old Testament—simple reciprocity does not determine the mode of retribution People want even the justice of Rhadamanthus to mean this Should a man suffer what he did right justice would be done Yet Aristotle points out in many cases reciprocity and rectificatory justice are not in accord e.g. if an official has inflicted a wound he should not be wounded in return and if someone has wounded an official he ought not to be wounded only but punished in addition Retaliation consists in reciprocity only if it is in accordance with a

proportion and not on the basis of a precisely equal return

Punishment as retaliation may seem to be inseparable from revenge Yet a cord to Lucretius the surrender of primitive freedom for the restrictions of civilized life is not valued by the desire to substitute equitable retribution for unlimited vengeance Mankind tired out with a life of brute force lay exhausted from its feuds and therefore the more readily it submitted of its own free will to laws and stringent codes As each man moved by anger took measures to avenge himself with more severity than is now permitted by equitable laws for this reason men grew sick of the life of brute force

Hegel tries to clarify what he regards as a popular confusion of retribution with revenge.

In that condition of society he writes, when there are neither magistrates nor laws, punishment always takes the form of revenge and remains defective inasmuch as it is the act of a subjective will It is understandable that retribution should be objected to on the ground that it looks like something immoral as like revenge and that thus it may pass for something personal Yet it is not something personal but the concept itself which carries out retribution Vengeance is mine saith the Lord as the Bible says The Eumenides sleep but crime awakens them and hence it is the very act of crime itself which vindicates itself.

The apparent contradiction in the identity and difference of retribution and revenge can, in Hegel's opinion, be resolved On the one hand it can be said that the annulling of crime is retribution insofar as retribution as a conception is an injury of the injury On the other hand it can be said that the annulling of crime in this sphere where right is immediate is principally revenge which is just in its content insofar as it is retributive The demand that this contradiction be resolved is the demand for justice not as revenge but as punishment

Hegel's resolution seems to be in terms of a distinction between the particular and the universal When the right against crime has the form of revenge it is only right implicit not right in the form of right i.e. no act of revenge is justified Instead of the injured party the universal injured universal now comes on the scene and thus

has its proper actuality in the court of law. It takes over the pursuit and the avenging of crime and this pursuit consequently ceases to be the subjective and contingent retribution of revenge and is transformed into the genuine reconciliation of right with itself *i.e.* into punishment.

On this conception of punishment Hegel like Kant decries every utilitarian purpose for punishment. Such misconceptions of punishment arise, he says, from the supposition that both crime and its annulment are 'unqualified evils' which makes it seem quite unreasonable to will an evil merely because another evil is there already. To give punishment this superficial character of an evil is amongst the various theories of punishment the fundamental presupposition of those which regard it as a preventive, a deterrent, a threat as reformative etc. and what on these theories is supposed to result from punishment is characterized equally superficially as a good. But the pre-emptive point at issue is wrong and the righting of it. If you adopt that superficial attitude toward punishment you brush aside the objective treatment of the righting of wrong.

THE ISSUE WOULD SEEM to be a conflict between justice and expediency with the utilitarians identifying retribution with revenge and demanding that punishment serve some good or mitigate some evil. But sometimes the question is whether justice and expediency are compatible.

In the debate on the treatment of the Mytilenians which Thucydides reports Cleon calls upon the Athenians to show no mercy to their rebellious subjects. Their offence, he says, was not involuntary but of malice and deliberate and they deserve to be punished.

If you follow my advice you will do what is just towards the Mytilenians and at the same time expedient. For if they were right in rebelling you must be wrong in ruling. However, if right or wrong you determine to rule you must carry out your principle and punish the Mytilenians as your interest requires.

Diodorus objects to the policy of putting the Mytilenians to death on the ground that it is not a question of justice but of expediency.

We are not in a court of justice, he says, but

in a political assembly and the question is not justice but how to make the Mytilenians useful to Athens. I consider it far more useful for the preservation of our empire to put up with injustice than to put to death however justly those whom it is our interest to keep alive. As for Cleon's idea that in punishment the claims of justice and expediency can both be satisfied, facts do not confirm the possibility of such a combination.

In the chapter on justice in *Utilitarianism* Mill seems to place justice above expediency but he also seems to reduce retribution to revenge and call it just. The sentiment of justice which includes as one of its elements the desire to punish, Mill identifies with the natural feeling of retaliation or vengeance. Retribution or the giving of evil for evil, he says, becomes closely connected with the sentiment of justice and is universally included in the idea. The principle of giving to each what they deserve, he adds, that is good for good as well as evil for evil, is not only included within the idea of Justice as we have defined it but is a proper object of that intensity of sentiment which places the just in human estimation above the simply Expedient.

Other writers seem to think that the utility of punishment is not incompatible with its retributive justice. The great theologians, for example, considering the difference between the eternal punishment of the damned in Hell and the cleansing punishment of the repentant in Purgatory, do not find it impossible for divine justice to include both absolute retribution and punishment which may be remedial as well as retributive. Purely retributive punishment seems justifiable to them but they do not think that punishment can ever be justified simply by its utility—by the good it achieves—without any reference to the retaliation of evil for evil.

In the context of saying that the institution of slavery among men is a just punishment for Adam's sin and that God knows how to award fit punishments for every variety of offence, Augustine observes that we must not only do harm to no man but also restrain him from sin or punish his sin so that neither the man himself who is punished may profit by his experience or others be warned of his example. Here there



seems to be no thought that retribution excludes a reformatory or deterrent use of punishment. Aquinas even more explicitly combines the remedial and the deterrent utility of punishment with the function of punishment to preserve the order of justice by meting out an equitable retribution.

In willing justice God wills punishment according to Aquinas. The order of justice belongs to the order of the universe and this requires that penalty should be dealt out to sinners. But just retribution is not the only reason for punishment. Sometimes it is for the good of those who are punished—sometimes for the amendment of others. These reasons for punishment apply to human as well as to divine law. When a thief is hanged this is not for his own amendment but for the sake of others who at least may be deterred from crime through fear of punishment. Punishment is a proper effect of human law not merely because justice requires it but because the law makes use of the fear of punishment in order to ensure obedience.

In discussing the proportion between the severity of the penalty and the gravity of the fault in the punishment of sin under the Mosaic law Aquinas explains that in addition to the reason of justice (that a greater sin other things being equal deserves a greater punishment) there is the purpose of reformation (sinners are not easily cured of habitual sin except by severe punishments) and the purpose of prevention (for men are not easily deterred from such sins unless they be severely punished). Here three reasons for punishment are stated side by side. But in the opinion of Aquinas retribution is more than the primary—it is the one indispensable reason for punishment cannot be justified except as doing the work of justice.

THE VIEW OF HANT AND Hegel that retribution or retaliation is the only basis for punishment—not merely the primary or the indispensable reason—meets its exact opposite in what appears to be the completely utilitarian theory of punishment to be found in the writings of Plato, Hobbes, Locke, and Rousseau.

In the *Protagoras* arguing for the proposition that virtue can be taught, Protagoras insists

that no one punishes the evil doer for the reason that he has done wrong—only the unreasonable fury of a beast acts in that manner. But he who desires to inflict rational punishment does not retaliate for a past wrong which cannot be undone. He has regard to the future and is desirous that the man who is punished and he who sees him punished may be deterred from doing wrong again. He punishes for the sake of prevention, thus clearly implying that virtue is capable of being taught.

Plato himself seems to adopt the opinion of Protagoras. In the *Laos*—wherein he sets forth the provisions of a penal code in a detail equalled in the tradition of the great books only by the proposals of Hobbes—Plato says no man is to be punished because he did wrong for that which is done can never be undone but in order that in the future times he and those who see him corrected may utterly hate injustice or at any rate abate much of their evil doing. Yet he also goes on to say that the law should aim at the right measure of punishment and in all cases at the deserved punishment. This qualification seems in turn to be balanced by his remarks on the death penalty which he thinks should be imposed only on the incurable who cannot profit from punishment and whose execution would be an example to other men not to offend.

The notion of desert in Plato's theory of punishment appeals to justice without implying any separation between retribution and reform. In the *Gorgias* Socrates says that to suffer punishment is another name for being justly corrected when you do wrong. A wrongdoer who escapes punishment suffers a greater evil than one who is punished for he who is punished and suffers retribution suffers justly. Thereby justice is restored in his soul. The judge who prescribes just punishments cures the soul as the physician who prescribes the right remedies cures the body. The wrongdoer who having been unjust goes unpunished has no deliverance from injustice.

The fact that just punishments are deserved does not seem to be the reason why men should be punished. Considering the penalties imposed by gods and men in the next world or in this, Socrates summarizes his argument by saying that the proper office of punishment is two-

fold he who is rightly punished ought either to become better and profit by it or he ought to be made an example to his fellows that they may see what he suffers and fear and become better. Those who are improved when they are punished by gods and men are those whose sins are curable and they are improved as in this world so also in another by pain and suffering.

Like Plato Hobbes places the reason for punishment in the future rather than in the past—in its utility to procure certain effects rather than in its effecting retaliation. He states it as a law of nature that in revenges (that is retribution of evil for evil) *men look not at the greatness of the evil past but the greatness of the good to follow*. Whereby we are forbidden to inflict punishment with any other design than for the correction of the offender or the direction of others. Anything else he calls an act of hostility.

The chief aim of punishment in securing the reformation and the deterrence of criminals Hobbes thinks is to maintain public peace. A punishment is an evil inflicted by public authority on those who have transgressed the law to the end that the will of men may there by the better be disposed to obedience. A law without a penalty attached is not a law but vain words. It fails to achieve the end of law which is the same as the end of punishment. The worst offenses—those to be prevented by the most severe penalties—are crimes not against individuals but those that are of most danger to the public.

Locke also derives from natural law the right to punish those who transgress that law for restraint and preventing the like offence to which he adds that each transgression may be punished to that degree and with so much severity as to make it an ill bargain to the offender give him cause to repent and terrify others from doing the like. This theory of punishment applies not only to man living in a state of nature but in civil society as well.

Though Rousseau describes the wise statesman as one who knows how by punishing crimes to prevent them he lays greater emphasis on the other motive for punishment—the reformation of the criminal. There is not a single ill doer who could not be turned to some good. The State has no right to put to death

even for the sake of making an example anyone whom it can leave alive without danger. Or as Fetyukovitch says in his address to the jury in the *Brothers Karamazov*: The Russian court does not exist for punishment only but also for the salvation of the criminal. Let other nations think of retribution and the letter of the law we will cling to the spirit and the meaning—the salvation and the reformation of the lost.

THIS GREAT ISSUE CONCERNING the reason for or purpose of punishment seems to affect most of the other questions which men raise about the penalties to be imposed for wrongdoing—whether the wrong is a sin a crime or a vicious act and whether it is God or the state nature or the individual himself who inflicts the pain. The reverse also seems to be true. These other questions raise difficulties or issues which test the conflicting theories that punishment should be a just retaliation *exclusively* or should be justified *only* by its consequences or should somehow be a *combination* of awarding just deserts and securing good effects.

For example the question of how the various modes and measures of punishment should be determined and assigned to diverse acts of wrongdoing does not seem to be answerable in the same way when the principle is simply retribution and when the purpose of punishment is reformation and deterrence. On the principle of retribution the gravity of the offence appears to be the only determinant of the severity of the punishment. The punishment should fit the crime not the nature of the criminal as someone capable of being benefitted by punishment.

Kant and Hegel do not think that the justification of the death penalty for example depends on the curability or incurability of the offender. Nor do they think that the taking of the criminal's life should be motivated as Aquinas and Locke seem to suggest by the desire to protect society from his future depredations. It is sufficient that he has taken a life or committed some equally serious injury which ought to be repaid by a proportionate requital.

What is involved in the act on of the criminal, Hegel writes is not only the concept of crime the rational aspect in crime as such

whether the individual wills it or not the aspect which the state has to vindicate but also the abstract rationality of the individual's *solution*. Since that is so Hegel argues punishment is regarded as containing the criminal's right and hence by being punished he is as honored as a rational being. He does not receive this due of honor unless the concept and measure of his punishment are derived from his own act. Still less does he receive it if he is treated either as a harmful animal who has to be made harmless or with a view to deterring or reforming him.

On these grounds Hegel criticizes Beccaria's unqualified opposition to the death penalty. In addition he rejects Beccaria's theory that it could not be presumed that the readiness of individuals to allow themselves to be executed was included in the social contract. Rousseau takes the diametrically opposite view. He argues for the death penalty on the ground that we consent to die if we ourselves turn assassins in order to protect ourselves from falling victims to assassins. In making this consent a part of the social contract Rousseau holds that we think only of securing [our own lives] and it is not to be assumed that any of the parties then expects to get hanged.

Hegel disagrees with both Beccaria and Rousseau. According to him, the state is not based upon a social contract nor does he admit that its fundamental essence [involves] the unconditional protection and guarantee of the life and property of members of the public as individuals. On the contrary he holds it is that higher entity—the state—which even lays claim to this very life and property and demands its sacrifice.

The state therefore according to Hegel can not be denied the right of inflicting capital punishment. Hegel admits that Beccaria's requirement that men should give their consent to being punished is right enough but he adds that the criminal gives his consent already by his very act. The nature of the crime no less than the private will of the individual requires that the injury initiated by the criminal should be annulled. However that may be he continues Beccaria's endeavor to have capital punishment abolished has had beneficial effects. Because of the efforts made by Joseph

II and Napoleon to abolish it we have begun to see Hegel thinks which crimes deserve the death penalty and which do not. Capital punishment has in consequence become rare as in fact should be the case with this most extreme punishment.

The attitude toward the death penalty as well as toward all other punishments is different when the *only* purpose of punishment is the welfare of society and the improvement of individuals whether they are actual or potential offenders. The modes and degrees of punishment must then be determined by considering their effectiveness as means to the ends in view. Montesquieu discusses the penal codes in various systems of law entirely in terms of their success in preventing crime. Though he does not seem to think that punishment can improve the character of the individual he believes that a certain proportion between the penalty and the offense may tend to reduce the extent and gravity of crimes. In Russia he says when the punishment of robbery and murder is the same they always murder.

In general Montesquieu is opposed to unduly severe punishments and especially to cruel and unusual punishments not so much on the grounds of injustice as for the protection of liberty and public morals. Hobbes, Locke and Rousseau similarly discuss the severity of punishment with reference to its utility and like Montesquieu they face the problem that the same measure or degree of punishment may not be equally effective for the purposes of reformation and deterrence. Severe penalties for example may have a greater deterrent effect upon potential offenders than milder forms of punishment but they may also tend to harden criminals instead of reforming them.

The conflict of principles in the determination of punishments seems to be even more marked in the case of those who try to combine retribution with utility. If for example the death penalty is the just desert for murder should it be applied on the grounds of retribution even though a particular murderer can be reformed by milder treatment? If heavy penalties were to prove highly effective as deterrents should they be applied to minor offenses which deserve less severe retaliations in order to reduce the amount of crime?

THERE SEEMS TO BE AGREEMENT for the most part on who shall have the authority to punish and who shall be subject to punishment in the relation of men to one another to the state and to God. Punishment seems to be annexed to law as indispensable for its enforcement so that whoever has the authority to set rules of conduct for another also has the authority to impose penalties for their violation. Yet the notion that punishment is a necessary sanction for law—which is apparently shared by those who take the retributive and those who take the utilitarian view of punishment—does not seem to fit both views equally well at least not to the extent that the end of law and its enforcement is the common good or the public welfare.

Again it seems to be generally agreed that moral responsibility on the part of offenders is an indispensable condition of just punishment for their misdeeds. Unless the sinful or the criminal act is voluntary unless it is intentional rather than accidental—or if negligent capable of being attributed to a wilful error of judgment—the act is without fault and the agent without guilt. But although those who make punishment retributive and those who make it reformatory or deterrent seem to agree upon responsibility as prerequisite this principle does not seem to be equally consistent with both theories—at least not to the extent that the exemplary punishment may deter others quite apart from the responsibility of the person punished.

The question of responsibility raises other difficulties e.g. the metaphysical issue about personal identity on which Locke takes the stand that unless the human individual is an enduring substance he cannot deserve subsequent punishment for his prior acts and the issue of free will and causality on which Hume's position seems to be that unless human actions are subject to causal necessity a man cannot be blamed for his acts or become the object of punishment as vengeance.

Finally there is the problem of a natural need for punishment and of the penalties which nature itself imposes for wrongdoing to fulfill this need. The familiar statement that virtue is its own reward and vice its own punishment is sometimes interpreted to mean that virtue

and vice are intrinsically good and evil and sometimes to mean that through their natural consequences they heap benefit or injury on their possessor.

Augustine for example says that by the sins which he committed God did justly punish him for every disorder in the soul as its own punishment and Kant distinguishes juridical from natural punishment in which Crime as Vice punishes itself and does not as such come within the cognizance of the Legislator. The other interpretation seems to be represented by Hobbes' theory that intemperance is naturally punished with diseases injustice with the violence of enemies cowardice with oppression. In the chain of consequences started by any action he discerns the pains which are the natural punishments of those actions that are the beginning of more harm than good.

But according to Freud it is the craving for punishment rather than the punishment which is natural i.e. psychologically determined. Individuals punish themselves or seek to be punished for what is either real or fancied guilt.

The unconscious need for punishment plays a part in every neurotic disease. Freud writes

It behaves like a part of the conscience like the prolongation of conscience into the unconscious and it must have the same origin as conscience that is to say it will correspond to a piece of aggressiveness which has been internalized and taken over by the super ego. If only the words were less incongruous we should be justified in calling it an unconscious sense of guilt.

Whatever its psychological validity Freud's theory does not resolve the moral issue concerning the justice or utility of punishment. Nor does it eliminate the possibility of other motives for submitting to punishment voluntarily. Socrates in the *Cratylus* explains that he refuses to escape from the death penalty he thinks he does not deserve in order to uphold the law which is itself just even though in his own case it has been unjustly applied by men. Thoreau and Gandhi refuse to obey laws their consciences cannot approve but do not resist the state's demand that they be punished for the law's infraction. In an unjust society going to prison is for them the necessary fulfillment of the revolution begun by civil disobedience.

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Ilad* 11 [265-83] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychol* 116-119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symp* 163b-164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS.** One more of the main divisions of a work (such as PART BOOK CHAPTER) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Ilad* BK 11 [265-83] 12d.

**BIBLE REFERENCES.** The references are to book chapter and verse. When the King James and Douay versions differ in title of book or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. O D TERTIUM NT *Nehemiah* 7:45—(D) II *Esdr* 7:46.

**SYMBOLS.** The abbreviation esp. calls the reader's attention on to one or more especially relevant parts of the whole reference passage signifies that the topic is discussed intermittently rather than continually in the work or passage cited.

For additional information concerning the style of the reference see the Explanation of Reference Style for general guidance in the use of *The Great Index* consult the Preface.

## 1 The general theory of punishment

## 1 The nature of punishment the pain of sense and the pain of loss

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7 PLAT *Protagoras* 45b-d

9 A T TIL *Ethic* BK VI CH 13 [1153<sup>b</sup> 4] 405

12 LUCRETIUS *Nature of Things* BK I [978-1023] 42d-43b

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18 AUGUSTIN *City of God* BK XIV CH 13 519a 520a

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20 AQUINAS *Summa Theologiae* PART I Q 87 A 2 ANS 186c 187b A 4 ANS 188b d A 6 189 190 ART I Q 19 A 1 465b-d

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42 KANT *Practical Reason* 306b-c / *Intro Metaphysic f Morals* 393d / *Science of Right* 446b

46 HEGEL *Philosophy of Right* PART I par 99-100 37b 38a ADDITIONS 56 125b c

## 1b The retributive purpose of punishment the infliction of retaliation and revenge the punishing of a wrong

OLD TESTAMENT *Genesis* 4 15 4 9 6 34 / *Exodus* 2 2 34 esp 21-24 25 / *Leviticus* 19 18 24 16-21 / *Numbers* 35 10-34 / *Deuteronomy* 9 1 13 3 35 41-43 / *Judges* 15 -8 16 1 30 / *I Samuel* 24 12—(D) I KINGS 21 3 / *II Samuel* 13 22 9 22 48 —(D) II KINGS 13 2 9 22 48 / *II Kings* 9 4 1 —(D) IV KINGS 9 4 0 / *Psalms* 58 79 10-2 94 1 149—(D) *Psalms* 57 78 10-12 93 1 149 / *Proverbs* 6 34 35 20—24 9 / *Isaiah* 59 7 19—(D) *Isaiah* 59 17 9 / *Jeremiah* 5 9 1 46 1 50 5 8 5 —(D) *Jeremiah* 5 9 1 1 46 1 5 5 8 5 1 / *Ezekiel* 25 p 5 —(D) *Ezekiel* 25 p 5 1 5 / *Micah* 5 5 —(D) *Micah* 5 4 / *Nahum* 2 3 APOCRYPHA *Judith* 9 1 4 16 7—(D)

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- 4 HOMOER *Il d* BK IV [620-643] 63b-c BK XVIII [497-508] 135b / *Odyssey* BK I [32-43] 183b c BK II [195-209] 195a II BK XXI XXII 301a 311a
- 5 A SCHYLUS *Agamemnon* [1577 161] 68d-69a / *Choephors* 70a 80d esp [306-314] 73a b [400-4 4] 74a / *Eumenides* 81a 91d esp [490-565] 86b-87a
- 5 SOPHOCLES *Oedipus at Colonus* [229-233] 116b / *Aj* x 143a 155a c esp [430-456] 146d 147a / *Electra* 156a 169 c esp [516-633] 160a 161a [ 384 1510] 167d 169a c
- 5 EURIPIDES *Medea* 212a 224a c esp [ 64-810] 218d 219a / *Electra* 327a 339a c esp [112 167] 328a c, [880-1180] 335a 337d / *Hecuba* 353a 364a c esp [ 109-129] 362b 364a / *Heracles Mad* [7 6-814] 371b d / *Orestes* 394a 410d esp [478-606] 398d-400 [1098-1176] 405a d
- 6 H XODOTUS *History* BK I 9c 10a 16c 17a 29b-30d BK II 68d 69a BK III 91a b 99c 100a 116b-117a BK IV 154a b BK V 177a BK VI 204d 205 BK VII 218a b 237d 239a BK III 278c 279a BK IX 305 -c 306c 307a 313a 314a
- 6 THUCYDIDES *Plipponean War* K II 405a II BK I: 424d-429a 429 -434c BK VII 556d 557a
- 7 PLATO *Protagoras* 45 d / *Gorgias* 293b 294c / *Republic* BK X 437c-438c / *Laws* K 769d 770c
- 9 ARISTOTLE *Ethics* BK III CH 5 [1113<sup>21</sup> 1114 2] 359d 360a K V CH 4 379b 380b esp [1132<sup>7</sup> 19] 379c d CH 5 [1132<sup>21</sup> 1133 3] 380b-c CH II [1135<sup>7</sup> 10] 386b [1138 0-23] 386c / *Rhetoric* BK I C I IO [1369<sup>22</sup> 14] 612d
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- 19 AQUINAS *Summa Theologica* PART I Q 19 A 9 ANS 116d 117d Q 49 A 2 A 5 256a c PART I-II Q 46 A 7 818a d
- 20 AQUINAS *Summa Theologica* PART II Q 8, 185c 192d Q 108 A 3 REP 2 334a 336b
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- 22 CHAUCER *Reeve's Tale* 225a 232a esp [13 4322] 231b 232a / *Tale of Melibee* par 30-10 413b-422b
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- 27 SHAKESPEARE *Hamlet* ACT I SC V [74-88] 37d ACT III SC III [73-98] 54a b CT IV 10 V [115 20] 60d 62a / *Othello* ACT I SC I 16c 65] 205a 206 ACT II SC I [300-311] 216c ACT III SC III [442-479] 226d 227b ACT V SC III 238d 243a c / *Timon of Athens* ACT I SC IV 419d-420d
- 29 C RIVANTES *Don Quixote* PART I 68b 73a
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- 38 MONTQUIEU *Spirit of Laws* BK VI 43a b K XI 86 d
- 38 ROUSSEAU *Inequality* 351b d
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- 42 HANT *Science of Right* 445a-449c esp 446b-447c
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- 46 HEGEL *Philosophy of Right* PART I par 93 36a b par 99-100 37b 38a par 103 39b PART II par 220 73a b PART III 106a ADDITION 63-65 126a = 74 127d 128a / *Philosophy of History* PART I 214d 216a
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- **TOLSTOY** *War and Peace* BK II 95c BK IX 357d 358b BK XI 505a 517b  
 ■ **DOSTOEVSKY** *Brothers Karamazov* BK XII 398c 399c  
 53 | **MES** *Psychology* 225a  
 54 **FREUD** *Interpretation of Dreams* 247d 248a

**1c Punishment for the sake of reforming the wrongdoer**

- OLD TESTAMENT** *Leviticus* 26 14 46—(D) *Leviticus* 26 14-45 / *II Samuel* 7 14 15—(D) *II Kings* 7 14 15 / *I b* 5 17 18 / *Psalms* 39 10-11 141 5—(D) *Psalms* 38 1 14 5 / *P ebs* 3 11 12 13 24 15 10 17 10 19 18 25 20 30 22 15 23 13 14 29 5 17 / *I a ak* 4 4 27 7-9—(D) *I sa as* 4 4 27 7-9 / *Jeremiah* 2 30 5 3—(D) *Jeremiah* 2 3 5 3 / *Ezekiel* 14 9-11—(D) *Ezekiel* 14 9-11 / *Zephaniah* 3 1-13—(D) *Sophonia* 3 1 13 / *Malachi* 3—(D) *M l chas* 3  
**A** ■ **ΚΥΡΙΑ** *Judith* 8 25 7—(D) *OT Judith* 8 21 27 / *dom of Sol m n* 3 1-6 1 5 16 18 esp 12 25 26 16 2-12 24 28—(D) *OT Book of Wisdom* 3 1-6 11 5 17 12 esp 12 25 6 6 12 24 28 / *Ecclesiasticus* 7 23 22 6 30 2 12-13—(D) *OT E l asticus* 7 5 22 6 30 2 12-13 / *Baruch* 2 21 33 37 4 esp 4 29—(D) *OT Baruch* 2 21-33 37 4 esp 4 29 / *II Ma b es* 6 2 17 7 33 1 4—(D) *OT II Mach bees* 6 2 17 7 33  
**NEW TESTAMENT** *I Corinthians* 11 32 / *Hebrews* 12 5 11 / *Revelation* 3 19—(D) *Apocalypse* 3 19  
 5 **SOP** OC 25 *Antigone* [ 348 1353 ] 142d  
 5 **EURIPIDES** *Orestes* [ 491-525 ] 399a b  
 5 **ARISTOPHANES** *Clouds* [ 13 3 1464 ] 504b-506  
 7 **PLATO** *Protagoras* 45b d / *Gorgias* 267 270c 293b 94c / *Republic* BK II 321d 322d K IX 426d 427 / *Cratylus* 485b d / *Laus* K V 688d 689 690d 691b BK IX 743c 744a 747d K K 769d 770c BK XI 782a b K XI 785 786a  
 9 **ARISTOTLE** *Ethics* BK II C 1 3 [ I 4<sup>b</sup> 14 8 ] 350a K K CH 9 [ 8 5 13 ] 434d  
 10 **HIEROCLES** *The Law* par 1 141a b  
 11 **AUGUSTINE** *Confessions* K I par 14 16 4 5b [ I 19-23 5d 7a / *City of God* K XIV CH 16 521d 522a BK XX CH 3 571c 572a / *Christian Doctrine* BK I CH 16 628 d  
 19 **AQUINAS** *Summa Theologiae* ART I Q I A 4 [ 3 126c 127c  
 20 **AQUINAS** *Summa Theologiae* PART I Q 79 A 4 158d 159c Q 87 A 2 REP 1 186 187b AA 6 8 189c 192d Q 5 A 2 REP 9 309d 316 [ 8 17 33 550a 558d ART I SUPPL Q 99 REP 3 1078c 1081a  
 21 **HOBBS** *Leviathan* RT I 94a PART II 141b 147 b 157d 158  
 35 **LOCKE** *Treatise* I 2c p m  
 37 **FILSON** *Temple* 267b-268b 380 381a

- 38 **MONTESQUIEU** *Spirit of Laws* BK VI 39d 40b  
 42 **KANT** *Practical Reason* 306b-c / *Science of Right* 446b-447c  
 43 **MILL** *Liberty* 271c 272d 302d 312a passim / *Utilitarianism* 471d 472d  
 44 **BOSWELL** *Johnston* 7d 8a 199c 200d  
 46 **HEGEL** *Philosophy of Right* PART I par 99 37b d / *Philosophy of History* [ RT I 214d 216a  
 52 **DOSTOEVSKY** *Brothers Karamazov* BK II 30b 32a BK XII 395a-401d

**1d The preventive use of punishment; the deterrence of wrongdoing**

- OLD TESTAMENT** *Deuteronomy* 13 10-11 19 19-20 / *Proverbs* 10 25 21 1  
**A** OC V 14 *Ecclesiasticus* 23 23 27—(D) *OT Ecclesiasticus* 23 37  
**N** W **TESTAMENT** *I Corinthians* 10 5-11 / *II Peter* 2 6 / *Jude* 7  
 5 **A SCHYLLOS** *Pernans* [ 739-842 ] 23a 24b / *Agamemnon* [ 691-78 ] 59b 60b / *Eumenides* 81a 91d esp [ 490-565 ] 86b 87a  
 5 **SOPHOCLES** *Oedipus the King* [ 882-845 ] 107b / *Ajax* [ 118 133 ] 144c / *Electra* [ 121 250 ] 157b 158a [ 150 510 ] 169a c  
 5 **EURIPIDES** *Medea* [ 271-356 ] 214b 215b / *Orestes* [ 478 606 ] 398d 400a [ 917-945 ] 403b c  
 6 **HIERODOTUS** *History* BK II 87a b K V 164c  
 6 **THUCYDIDES** *Peloponnesian War* BK II 400d 401 K II 426b d 427d-428a  
 7 **PLATO** *Protagoras* 45b-d / *Gorgias* 93b 294c / *Laws* BK V 690d 691b BK IX 743c 744 747d 757a BK X 769d 770 BK XI 782a [ 1112 12 ] 359d 360a BK X CH 9 [ 1179 33 8 32 ] 434 435 / *Rhetoric* BK I CH 14 [ 1375 1 20 ] 619b  
 10 **HIPPORAT** *The Law* par 1 144a b  
 15 **TACITUS** *Annals* BK III 49d 50a 57a 61c d K X V 151d 152b / *Historiae* BK I 200d  
 18 **AUGUSTINE** *City of God* BK XIX CH 16 521d 522a  
 20 **AQUINAS** *Summa Theologiae* PART II Q 87 A 2 R P I 186 187b A 3 REP 2 187b 188b  
 23 **HOBBS** *Leviathan* [ T I 140a 141b 143b d 145c d 157d 158a  
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 35 **HUMPHREY** *History* *Under the* d g CT V D V 6 485a  
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(1 *The general theory of punishment 1d The preventive use of punishment the deterrence of wrongdoing*)

- 38 MONTESQUIEU *Spirit of Laws* bk vi 37d  
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38 ROUSSEAU *Political Economy* 371a c 372c  
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39 SMITH *Wealth of Nations* bk v 309a c  
40 GIBBON *Decline and Fall* 175c ii 199b  
41 GIBBON *Decline and Fall* 83b c 9 b c  
42 KANT *Science of Right* 446b 448a b  
43 MILL *Liberty* 271c 272d 313a 316b / *Representative Government* 334d 335a / *Utilitarianism* 471d 472d  
44 BOSWELL *Johnson* 204b 301c d 335c  
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46 HEGEL *Philosophy of Right* PART I par 99-  
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49 DARWIN *Descent of Man* 314b  
52 DOSTOEVSKY *Brothers Karamazov* bk xii  
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54 FREUD *Civilization and Its Discontents* 787c

2 *Personal responsibility as a condition of just punishment the problem of collective responsibility*

- OLD TESTAMENT *Genesis* 3 16-19 / *Exodus*  
20 5-6 34<sup>7</sup> / *Numbers* 14 18 / *Deuteronomy*  
5 9-10 24 16 / *II Samuel* 21 1-9-(D)  
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25 3 4 / *Jeremiah* 31 29-30-(D) *Jeremias*  
31 29-30 / *Ezekiel* 18-(D) *Ezechiel* 18  
APOCRYPHA *Wisdom of Solomon* 3 11 13-(D)  
OT *Book of Wisdom* 3 11 13 / *Ecclesiasticus*  
41 5-(D) OT *Ecclesiasticus* 41 8 / *Bauch*  
3 7-8-(D) OT *Bauch* 3 7-8  
NEW TESTAMENT *Romans* 5 12 19 / *I Corinthians*  
15 21-23  
5 ARSCHYLUS *Seven Against Thebes* 27a 39a c  
e p [597-614] 33c d [653-956] 34b-37d /  
*Agamemnon* 52a 69d / *Choephoroe* 70a 80d /  
*Eumenides* 81a 91d  
5 SOPHOCLES *Oedipus the King* 99a 113a c /  
*Oedipus at Colonus* 114a 130a c / *Antigone*  
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156a 169 c  
5 EURIPIDES *Suppliants* [214 228] 260b /  
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6 HERODOTUS *History* bk vii 223c d 238d  
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7 PLATO *Protagoras* 45b-d / *Lysis* bk ix  
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- II PLUTARCH *Camillus* 107b d  
15 TACITUS *Annals* bk xiv 152b  
18 AUGUSTINE *City of God* bk xiii ch 13 14  
366a c bk xiv ch i 376b d 377a ch 20  
392b bk xxi ch iii 571a c  
20 AQUINAS *Summa Theologica* PART I q ii  
162d 167d  
21 DANTE *Divine Comedy* PURGATORY xvi  
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22 CHAUCER *Parson's Tale* par 18 506b-507b  
23 HOBBS *Leviathan* PART II 118a b 147c  
26 SHAKESPEARE *3rd Henry VI* ACT II SC II  
[32-50] 79a ii / *Henry V* ACT IV SC I [136-  
202] 553a ii  
32 MILTON *Paradise Lost* bk iii [80-134] 13 a  
138a [167 216] 139a 140a [274 341] 341b  
143a bk v [615-640] 287b 288b  
33 PASCAL *Pensées* 434 249b  
35 LOCKE *Human Understanding* bk ii ch  
xxvii SECT 18 22 225b 226b  
35 HUME *Human Understanding* SECT VIII DIS  
76 485a-c  
40 GIBBON *Decline and Fall* 451b-c  
41 GIBBON *Decline and Fall* 95d  
42 KANT *Pure Reason* 169c 170a / *Intro Meta-  
physic of Morals* 391d 392a / *Science of Right*  
447b ii  
43 CONSTITUTION OF THE US ARTICLE III  
SECT 3 [507-511] 16a i  
43 FEDERALIST NUMBER 43 140c d NUMBER 56  
202c 203a  
43 MILL *Utilitarianism* 471b-472a  
46 HEGEL *Philosophy of Right* PART II par 115  
118 42b-43b par 132 46b 47a ADDITION  
74 127d 128a / *Philosophy of History* PART I  
215b 216a  
51 TOLSTOY *War and Peace* bk vii 275a ii  
xiv 606b 607a EPILOGUE II 688a-694d  
52 DOSTOEVSKY *Brothers Karamazov* bk ix  
83c 84a bk vi 168c 169c  
53 JAMES *Psychology* 225a

2a *Free will in relation to responsibility and punishment voluntariness in relation to guilt or fault the accidental the negligent and the intentional*

- NEW TESTAMENT *I Timothy* 1 12 13  
5 ARSCHYLUS *Agamemnon* [1372 1616] 66d  
69a / *Choephoroe* [269-3 5] 72d 73a [1 21  
1064] 80a c / *Eumenides* [436-469] 85a b  
[574 777] 87b-89a  
5 SOPHOCLES *Oedipus the King* [1297 1415]  
111b 112b / *Oedipus at Colonus* [939-999]  
123a c / *Trachiniae* [672 730] 176a c  
5 EURIPIDES *Heraclides* [1255 1357] 376a d  
6 HERODOTUS *II ii* 7 bk i 8b-10a  
6 TUCYDIDES *Peloponnesian War* bk ii  
426b-d 430 432b-c  
7 PLATO *Protagoras* 45b d / *Apology* 204b-c /  
*Timaeus* 474b-d / *Sophist* 557b-558a / *Lysis*  
bk v 688d 689a bk iii 746a 751d 754b  
756a

- 9 A ISOTOLE *Eth c* BK III C I 1 355b d 357b  
CH 5 359 361a esp [1113<sup>21</sup> 1114 2] 359d  
360a K V CH 5 [113<sup>21</sup> 31] 380b-c CH 8  
[1135 15]-CH 9 [1 36<sup>14</sup>] 383a 384d CH II  
386b 387a c BK VII CH 6 399d-400c CH 8  
401-402a pasim
- 11 EFICT US *D'scon ses* BK I CH 18 124 125a  
12 AURILIUS *Meduat ns* K II SECT 10 257d  
258a BK IV S CT 3 263b BK VII SECT 12  
308b c
- 18 AUGUSTINE *City of God* BK I CH 3 344b  
K XIV CH II 15 385d 390a pasim
- 19 AQUINAS *Summa Theol gica* PART I ■ 64  
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- 20 AQUINAS *Summa Theol gica* PART I-II Q 73  
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137 140d ■ 76 AA 3 4 142d 144d Q 78  
152b 156 ■ 80-81 159d 167d Q 83 A 3  
173 c Q 105 A REP 9 309d 316
- 21 DANTE *Div ne C medy* HE L X 15a 16b  
XXVII [55 136] 40a-41b PURGATORY XVI  
[5-84] 77b d XVIII [19-75] 80a c XXI [34-  
75] 85b d PARADISE IV [61-114] 111b d
- 23 HESSE *Levi sha* PART II 139d 140 143b  
157d 158a
- 32 MILTON *P ad se Lost* BK III [80-134] 137a  
138a K V [224-243] 180a b / *Samson Ago  
n* I [373 419] 347b 348b
- 35 LOCKE *Hum U derst ndng* BK II CH XXI  
SE 1 57 193b c CH VI CH CT 8- 2 225b-  
226b SECT 26 227c d BK IV CH XVII S CT  
4 373c 374a
- 35 HUM *Human Understand ng* SECT VI I DIV  
76 485a c
- 37 FILLD *o Ton Jones* 399c d
- 42 HAN *Ph R o* 169b [ln 1] 169 170 /  
*Intro Metaphysic of Mo als* 391c 392 393d
- 43 MILL *Utilism* 471d-472a 474d
- 46 HE *Phlosophy f Right* PART I par 96  
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1 8 42b-43b par 13 46b-47 A DITIONS 56  
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- 51 TILLEY *H nd Pace* K VI 275a BK  
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- 55 SWEET *matur ty and mo l competenc in  
r l con to r spons b lity*
- 7 PLATO *P tago as* 45b-d
- 11 AUUSTIN *City of God* K IX CH 16 573b  
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- 21 DUTY *D : C medy* K LL XXX I [1-9]  
49 50c
- 23 II *B s Levi th* PART I 132b-c 142a b
- 27 SHAKESPEARE *Hamlet* A TV SC I [236- 63]  
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- 35 LOCKE *C l G lernment* CH VI SECT 54-63  
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- 42 HANT *Pure Reason* 169c 170a
- 43 MILL *Liberty* 302d 312 pass m
- 46 H GEL *Ph losophy of Right* ART II P I 132  
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- 51 TOLESTOY *War and Peace* EPILOGUE II 690c d
- 52 DO TOEVSKY *Brothers Karamazov* BK XII  
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- 54 FRUM *Interpretation of Dreams* 241b c
- 3 Punishment in relation to virtue and v ce
- 3a Rewards and punishments as factors in the  
formation of moral character
- OLD TESTAMENT *Proverbs* 4 1-4 13-24 22 15  
23 13 14 20 15
- APOCALYPHA *Eccles anticus* 30 I 13-(D) OT  
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- NEW TESTAMENT *Hebrews* 2 7-11
- 5 AESCHYLUS *Eum ndes* [681-7] 188b ■
- 5 SOPHOCLES ■ *Art gone* [1348 1353] 142d
- 5 ARTOPH *NES Cl udi* [1303 1464] 504b-  
506c
- 7 PLATO *Pr i goras* 45b-d 46b / *Gorgias*  
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426d-427a / *S phist* 556d 557a / *Laws* K I  
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- 9 ARISTOTLE *Eth s* BK II CH 3 [II 4<sup>14</sup> 8]  
350a K III H 5 [3<sup>21</sup> 114<sup>2</sup>] 359d 360a  
BK X CH [117a 8 3] 426a CH 9 [1179 33-  
8 32] 434a 435a
- 14 PUTAR *Lycurgus* 41a-42b
- 18 AUGUSTINE *Co fest ns* K I par 14 16  
4 5b par 9-23 52 7a / *Cuy of God* BK VI  
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- 19 AQUINAS *Summ Th l gica* PART I Q 48  
A 6 CONTRARY AND R P I 264a d
- 20 AQUINAS *Summ Th l gica* PART I-II Q 87  
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- 23 HOBBS *Leviathan* PART II 141a b
- 25 MONTAIGNE *Essay* 16c d 66 73c 74a  
185c d
- 30 BACON *Advancement of Lea ng* 69d 70a
- 31 SPINOZA *Eth c* PART III DEF 27 EXPL 419a b
- 35 LOCKE *Human Understand ng* BK I CH II  
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- 35 HUMER *H man Understand g* SECT VIII DIV  
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- 36 SWIFT *Gulliver* PART I 8a b
- 37 FILLDIN *Tom Jones* 41a 380 381a
- 38 MONTESQUIEU *Spirit of Laws* K VI 37d  
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- 42 HANT *Fund Prin M l phy c of Mo al*  
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- 43 MILL *Liberty* 302d 312a passim esp 306  
307 / *Util amism* 458a b 464b c
- 44 BOSWELL *J hnson* 191b c 199c 200d 363 b
- 52 DUTY *SKY B thers K amazon* K  
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- 54 FRUM *War and Death* 758 759b / *C l  
I n d Its Discontents* 792b 795b / *New  
I t duct ry Lectu s* 876c d

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## b Vice its own punishment

A OCERYTHA *Ecclesiasticus* 14 5 10—(D) OT  
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■ PLATO *Gorgias* 262a 267c / *Republic* BK IV  
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530d / *Laus* BK II 656d 658b BK V 689d  
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12 LUCRETIVUS *Nature of Things* BK III [1014-  
1023] 43a b

12 EPICTETUS *Discourses* BK I CH 28 134b c  
BK II CH 10 149c d BK III CH 24 200b 208a  
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12 AURELIUS *Meditations* BK II SECT 16 259a  
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10 AUGUSTINE *Confessions* BK I par 19 5d BK  
III par 16 17c d

■ AQUINAS *Summa Theologica* PART I II QQ  
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23 HOBBS *Leviathan* PART II 163d 164a

25 MONTAIGNE *Essays* 174d 176c 389c d

26 SHAKESPEARE *Richard III* ACT I SC IV [1-75]  
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35 LOCKE *Human Understanding* BK I CH II  
SECT 5-6 105a passim

35 MONTESQUIEU *Spirit of Laws* BK VI 39b

42 KANT *Pref. Metaphysical Elements of Ethics*  
374a c

52 DOSTOEVSKY *Brothers Karamazov* BK XII  
381c d 398a b

53 JAMES *Psychology* 83a b

54 FREUD *Civilization and Its Discontents* 793a  
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## 5c Guilt, repentance and the moral need for punishment

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46-51—(D) *III Kings* 8 46-51 / *Psalms* 6  
32 38 5 10 130 143—(D) *Psalms* 6 31  
37 50 10 129 142

APOCRYPHA *Wisdom of Solomon* 12 10—(D)

OT *Book of Wisdom* 1 10 / *Ecclesiastes*  
20 3 21 6—(D) OT *Ecclesiastes* 20 4  
21 7

NW TESTAMENT *Luk* 16 27 31 / *Revelation*  
2 5 16-22—(D) *Apolyp* 2 5 16-22

6 HERODOTUS *History* BK I 9c 10a

7 PLATO *Gorgias* 267c 270c 293d 294c

15 TACITUS *Annals* BK I 14d / *Historiae* BK III  
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10 AUGUSTINE *City of God* BK XII CH 3 343d  
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20 AQUINAS *Summa Theologica* PART I II Q 87  
A 1 ANS and REP 3 185d 186c PART I II Q 33  
550a 558d

■ MONTAIGNE *Essays* 388c 395b passim

27 SIKES *Measure for Measure* ACT II  
SC III [19-42] 184b-c / *Cymbeline* ACT V SC IV  
[1-29] 481a b

32 MILTON *Samson Agonistes* 339a 378a ep  
[1-46] 339b 340b [356-380] 347b 348a [66  
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38 ROUSSEAU *Political Economy* 372

40 GIBSON *Decline and Fall* 54c 55a

43 MILL *Utilitarianism* 458b-459b

46 HEGEL *Philosophy of Right* PART I par 100  
37d 38a PART III par 0 73a b

51 TOLSTOY *War and Peace* BK V 221d BK IX  
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52 DOSTOEVSKY *Brothers Karamazov* BK II 30c  
32a BK III 50c 54b BK XII 369a 373c 380c

386a EPILOGUE 404c-408a passim

54 FREUD *Civilization and Its Discontents* 791b-  
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798c / *New Introductory Lectures* 831b

## 4 Crime and punishment punishment as a political instrument

6 HERODOTUS *History* BK VI 191a b

6 THUCYDIDES *Peloponnesian War* BK III  
424d-428d

7 PLATO *Laos* BK IV 743a 757d

9 ARISTOTLE *Ethics* BK V CH 4 [1131b35]-CH 5  
[1133 3] 379b 380c CH 11 [1138 4 13] 386b-c

10 POLITES *BK IV* CH 16 [1300b19-38] 501c d,  
BK VI CH 8 [1321b40 1322a8] 525d 526a BK  
VII CH 13 [1342 12 16] 536d / *Athenian Con-*

stitution CH 52-53 576b-577b CH 56 par 6-  
CH 59 par 7 579a 580c / *Rhetoric* BK I CH 13  
615c 617c CH 14 619a d

12 LUCRETIVUS *Nature of Things* BK V [1136-  
1160] 76a b

14 PLUTARCH *Cicero* 710c 712d

15 TACITUS *Annals* BK XIV 151d 152b / *His-*  
toriae BK I 200c d

18 AUGUSTINE *City of God* BK XIV CH 6 54b-  
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20 AQUINAS *Summa Theologica* PART I II Q 87  
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4 ANS 553b-554b A 6 ANS and REP I 555a-d

23 MACI (AVELLI) *Principes* CH VII 11b c CH VII  
14a c

23 HOBBS *Leviathan* PART II 138d 148b con-  
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26 SHAKESPEARE *2nd Henry VI* ACT III SC I  
[223 281] 49c 50a

29 CERVANTES *Don Quixote* PART I 68b 73a  
177a b

35 LOCKE *Tolerance* 3c 4 5b-6a 14a 15a /  
*Civil Government* CH VII SECT 87-88 41a-c  
CH XV SECT 171 65a b

30 SWIFT *Gulliver* PART I 28a b 29■

38 MONTESQUIEU *Spirit of Laws* BK VI 37d  
43d BK XII 85 92b

38 ROUSSEAU *Legitimacy* 351b d / *Political*  
*Economy* 371a c / *Social Contract* BK II  
398b-399a

39 SMITH *Wealth of Nations* BK V 309 c

40 GIBSON *Decline and Fall* 197b 198d 200a  
215b 216a 225d 229b 387d 388d 437b-d

- 41 GIBSON *Decl ne and Fall* 91a 94c 187b  
 42 KANT *Science of Right* 446a-448b  
 43 CONSTITUTION of THE U S ARTICLE I SECT 8 [210-12] [220-225] 13b ARTICLE III SECT 3 [507-51] 16a  
 44 FEDERALIST NUMBER 15 65a b  
 45 MILL *Liberty* 304d 305b 313a b  
 46 HEGEL *Philosophy of Right* PART I par 90-1 3 35d 39b sp p r 96-100 36c 38a PART III par 2 8 72c d ADDITIONS 138 139a b  
 47 TOLSTOY *War a d Peace* BK V 223 232a passim BK XI 505a 511b K XI 547a 551c  
 48 DOSTOEVSKY *Brothers Karamazov* K II 30b-32a  
 49 Punishment for lawbreaking as a necessary action of law  
 50 A CHYLUS *Eumenides* [490-562] 86b 87a [681-710] 88b  
 51 SOPHOCLES *A ligone* [640-680] 136d 137a  
 52 EURIPIDES *O ester* [478-6 6] 398d 400a  
 53 HERODOTUS *History* BK V 164  
 54 THUCYDIDES *Peloponnesian War* BK III 427d-428a  
 55 PLATO *Statesman* 601c-602d / *Laws* BK IX 747d 757a BK X 769d 770 BK XII 792c 793a  
 56 ARISTOTLE *Ethics* K V CH 4 379b 380b CH II [1138 4-13] 385b-c BK X CH 9 [1179 33 118 32] 434a-435a / *Politics* K V CH 8 [13 140-3 148] 525d 526a b VII CH 3 [1332 0-6] 536d  
 57 AUGUSTINE *City of God* BK XIX CH 6 514b-515a K XXI CH II 570 d  
 58 AQUINAS *Summa Theologica* PART I II Q 9 A 2 ANS and R P 3 4 214d 215 c Q 96 A 5 233d 234d Q 105 A 2 ANS 309d 316a  
 59 CHAUCER *Tale of Melibeus* par 4 418b-419  
 60 HOBBS *Leviathan* PART II 131a b 145a 148b 157d 158a  
 61 SHAKESPEARE *2nd Henry VI* ACT II s 1 [15] 44c d / *Romeo and Juliet* ACT I s 1 [71 10] 285b d / *Henry V* ACT II CH 539a 541a  
 62 SHAKESPEARE *Measure for Measure* ACT V SC I [3 8-3 4] 202b  
 63 CERVANTES *Don Quixote* PART I 68b 73a  
 64 S. THOMAS *Ethics* THOMAS VI PRO 37 s NO 2 436 PROF 51 s HOL 439d PRO 63 s HOL 444a  
 65 PAUL *Provincial Letters* 108b 109a  
 66 LOCKE *Treatise of Civil Government* CH SECT 3 25d CH SECT 7 3 26c 28b passim CH V s CT 87-88 44a-c CH IX 53 54d passim / *Human Understanding* K I II s c s 13 107b 108 K II c XXVII SECT 5 229 231 passim esp CT 6 229d  
 67 HUMPHREY *Human Understanding* d g s T VI DIV 76 485a  
 68 ROUSSEAU *Social Contract* BK II 398b 399 406c

- 40 GIBSON *Decl ne and Fall* 617b-d  
 42 KANT *Practical Reason* 306b c / *Science of Right* 446a d  
 43 FEDERALIST NUMBER 15 65a b NUMBER 21 78b d  
 44 MILL *Liberty* 302d 303a / *Representative Government* 467d 468c 471d-472d  
 46 HEGEL *Philosophy of Right* PART II par 2 0 73a b par 33 75d ADDITION 60 125d 138 139a b 173 146d  
 52 DOSTOEVSKY *Brothers Karamazov* BK VII 348b d-401d passim esp 395a-401d  
 46 The forms of punishment available to the state  
 5 EURIPIDES *O ester* [491-6 1] 399a-400a  
 7 PLATO *Apology* 209d 210a / *Gorgias* 264b / *Laws* BK V 690d 691b K IX 743a 757d passim K XI 771b 784b passim BK XII 784d 786b  
 9 ARISTOTLE *Ethics* BK V CH 5 [13 b 1 33 4] 380b-c CH I [138 4 13] 385b-c BK X CH 9 [1180 5 13] 434d / *Athenian Constitution* 52-53 576b-577b passim CH 56-60 578 580d passim CH 67 par 5 583b  
 15 TACITUS *Annals* K XIV 152d 153a  
 18 AUGUSTINE *City of God* K XXI CH II 570 d  
 20 AQUINAS *Summa Theologica* PART I-II Q 105 A 2 REP 9-12 309d 316 PART III SU L Q 99 A 1 ANS 1078c 1081a  
 23 HOBBS *Leviathan* PART II 146b 147b  
 25 MONTAIGNE *Essays* 23b 24a  
 26 SHAKESPEARE *Merchant of Venice* ACT IV SC I [346-400] 429a d  
 35 LOCKE *Treatise of Government* CH I CT 3 25d / *Human Understanding* K I CH XXVIII T 9 230b  
 36 SWIFT *Gulliver* PART II 28a 29b 35a 37b  
 38 MONTESQUIEU *Spirit of Laws* K VI 37d 38b  
 40 GIBSON *Decl ne and Fall* 217c 450b-c  
 41 GIBSON *Decl ne and Fall* 85c 91 92c 93a 94c  
 42 KANT *Science of Right* 446a-449  
 43 FEDERALIST NUMBER 15 65a b  
 46 HEGEL *Philosophy of History* PART I 214d 216a ACT IV 320d-c  
 50 MARX *Capital* I 364 367 passim

## 4b(1) The death penalty is justification

- OLD TESTAMENT *Genesis* 9 6 / *Exodus* 21 9 2 8 35.2 / *Leviticus* 20 9-18 7 4 6-21 / *Numbers* 35 16-31 / *Deuteronomy* 17 17a 7 18 2 19 11 3 1 8-3 2 21-27 24 7 / *Joshua* 7 10-26-(D) *Josue* 7 10-6 / *I Kings* 0-3-(D) III *Kings* 21 10-3 / *Ezra* 4 5-2 7 7-  
 APOCRYPHA II *Maccabees* 4 38 3 5-8-(D) OT II *Maccabees* 4 38 3 5-8  
 5 EZEKIEL D O s [49-6] 399-400a

(4 *Crime and punishment punishment as a political instrument* 4d *Grades of severity in punishment making the punishment fit the crime*)

9 ARISTOTLE *Ethics* BK III CH 5 [1113<sup>b</sup>21 1114<sup>a</sup>2] 359d 360a BK V CH 4 [1131<sup>b</sup>25]-CH 5 [1133 3] 379b-380c / *Politics* BK II CH 12 [1274<sup>b</sup>15 17] 471c / *Rhetoric* BK I CH 14 619a-d

18 PLUTARCH *Theseus* 4a b / *Solon* 70d / *Artaxerxes* 851a b

15 TACITUS *Annals* BK III 57a BK XIV 152d 153b

18 AUGUSTINE *City of God* BK XXI CH II 570b-571a

20 AQUINAS *Summa Theologiae* PART I-II Q 87 A 3 REP 1 187b-188b Q 10, A 2 A 5 and REP 9-12 309d 316a PART III SUPPL. Q 99 A 1 A 5 and REP 1 2 6 1078c 1081a

21 DANTE *Divine Comedy* HELL, V [ 72] 7a d VII [100-130] 10c d XII 16b-17d XIV [43-72] 20a b XX [1-39] 28b-d XXVIII 41b-43a esp [130-142] 42d-43a URGATORY X [97]-XI [9] 68b-69c XIII 71d 73 XIX [ 0-145] 82b 83a XXIII [1-75] 88b 89a

23 HOBBS *Leviathan* PART II 139c 140a 145d 157d 158a

25 MONTAIGNE *Essays* 23b 24a

27 SHAKESPEARE *Measure for Measure* ACT II SC II [1 6-141] 183b-c / *Coriolanus* ACT III SC I [263 336] 372c 373b

35 LOCKE *Civil Government* CH II SECT II 13 27b-28b

36 SWIFT *Gulliver* II RT 1 28a b

37 FIELDING *Tom Jones* 399c d

38 MONTESQUIEU *Spirit of Laws* BK VI 37d 43d BK XII 85c 91c BK XXIX 264d 266b

38 ROUSSEAU *Political Economy* 371a b / *Social Contract* BK IV 439a

40 GIBSON *Decline and Fall* 127d 128a 175d 176a 199b-c

41 GIBSON *Decline and Fall* 83b-c 91 94b passim

42 HANT *Science of Rights* 446a-448b

43 FEDERALIST NO. 74 221d 222d

43 MILL *Utilitarianism* 472 d 474d

46 HEGEL *Philosophy of Rights* PART I par 96 35c 37a PART II par 218 71 d par 319 106a ADDITIO 5 60 125d 138 139a B /

9 10 30-37 / II *Chronicles* 21 12 II 35 c7 3621-(D) II *Paralipomenon* 21 1 0 36 esp 3621 / *Zachariah* 5 1 4-(D) *Zacharias* 5 1 4 / *Malachi* 2-(D) *Malachias* 2

APOCRYPHA *Ecclesiasticus* 21:27 41:8-10-(D) OT *Ecclesiastes* 21 30 41 11 13 / *Ecclesiastes* 120-27

120-27-(D) OT *Baruch* 120-27

NEW TESTAMENT *Matthew* 25:41 / I *Corinthians* 16:22 / *Galatians* 3 10-14

5 AESCHYLUS *Suppliant Maidens* [524-599] 1c 8d / *Seven Against Thebes* 27a 39a.c esp [637-956] 34b-37d / *Agamemnon* 52a-69d esp [1372 1616] 66d 69a / *Choephoroe* 70a-80d esp [1067 1076] 80d / *Eumenides* 81a-91d esp [94 178] 82a 83a

5 SOPHOCLES *Oedipus the King* 99a 113 a / *Oedipus at Colonus* 114a 130 II esp [153 79] 121b-c [1348-1446] 126c 127b

6 HERODOTUS *History* BK III 106b-c

6 THUCYDIDES *Peloponnesian War* BK I 382a d

18 PLUTARCH *Camillus* 107b-d / *Alcibiades* 165a b

15 TACITUS *Annals* BK II 40d-41a

20 AQUINAS *Summa Theologiae* PART II-II Q 25 A 6 REP 3 504d 505d

26 SHAKESPEARE *Richard III* ACT I SC II [ 4 80] 107c 108b ACT III SC III 126c 127a CT IV SC IV [1 195] 136a 138b / *Richard II* ACT III SC II [129-134] 336d ACT I SC I [14 149] 342c 343a / *Julius Caesar* ACT I, SC I [253 275] 583b

30 BACON *Advancement of Learning* 97c

32 MILTON *Paradise Lost* BK X [1046-11 4] 297a 298b BK XI [84-98] 301a [162 15] 302b-303a [251 262] 304b-30 [4 0-52] 309b-310b BK XII [101 120] 321b

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- 12 LUCRETIUS *Nature of Things* BK III [1-14 23] 43a II
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- 26 SHAKESPEARE *Titus Andronicus* 170a 198d esp ACT I SC I [90-141] 171c 172a ACT II SC II [89-191] 173d 179d SC I 181b-d
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6c-6e  
Other discussions of the sense of sin and of repentance and of the desire or need for punish-  
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## ADDITIONAL READINGS

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- I Works by authors represented in this collection  
II Works by authors not represented in this collection

For the date of publication of the works cited consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*

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## Chapter 75 QUALITY

### INTRODUCTION

It is sometimes supposed that the fundamental categories in terms of which men think they are describing reality or their experience merely reflect the conventions of their language. Substance and attribute—and among attributes quality and quantity—happen to be fundamental categories in western thought. It is held only because the group of languages which the western cultures use all have a grammatical structure that involves a distinction between noun and adjective and between different kinds of adjectives. It is said, for example, that Aristotle's enumeration of the categories is merely a verbal classification based on Greek grammar. When he says that the basic terms of discourse represent substances, qualities, quantities, relations, and so forth, he is recognizing the grammatical difference between such words as *man* and *white* or between *white* and *six feet tall* and *double*. The lineaments of reality, the varieties of being, or the modes of experience are not, it is held, thereby finally described.

In the tradition of the great books, another interpretation generally prevails. Even those who disagree in one way or another about the basic categories do not regard them as conventional or of linguistic origin. Kant, for example, disagrees with Aristotle's listing of the categories. He makes substance a mode of relation rather than coordinate with quality, quantity, and relation. He calls his categories transcendental to indicate that they are not drawn from experience and that, as *a priori* forms of thought, they determine the structure of all possible experience. Aristotle, on the other hand, draws his categories from experience. He thinks that they represent fundamental modes of being and that they are, therefore, the basic concepts in terms of which thought apprehends reality. Despite all these differences, Kant and Aristotle agree that the categories signify real—

not verbal—distinctions. Their agreement on this point seems to be shared even by those like Hume who question our ability to know whether substances exist, or those like Berkeley who question the validity of the distinction between quality and quantity.

In one sense, no one questions the existence of qualities, as they do the existence of substances—the enduring things, material or otherwise, in which qualities are supposed to inhere. Everyone somehow acknowledges the hot and the cold, the light and the dark, the moist and the dry, the hard and the soft. But such acknowledgement does not preclude a number of basic questions about quality on which much disagreement exists.

Are qualities attributes? Do they exist, that is, only as *qualifiers*, only as belonging to some thing else? Or do they exist independently in and of themselves? If qualities are attributes, do they belong to things quite apart from our experience of them, or do they belong to things only as experienced and have no separate reality? Do things have in reality certain attributes that cause in us the experience of other traits which we then attribute to the things themselves?

Are all the attributes of things, whether in or apart from experience, to be conceived as qualities, and if so, are there different kinds of qualities? Or is quality only one kind of attribute, and if so, how is quality related to other kinds of attributes? Is quality, for example, distinct from quantity, dependent on quantity, reducible to quantity, affected by quantity?

These questions appear to be related in ways which make the issues they raise dependent on one another. If, in addition, their presuppositions and implications are observed, it will be seen that they cannot be fully discussed without entering into matters considered in other chap-

ters such as the notions of substance and accident in the chapter on BEING the theory of experience and the various accounts of sense perception and the objects of sense in the chapters on EXPERIENCE and SENSE and of course some of the principal topics considered in the closely related chapter on QUANTITY

SPINOZA DISTINGUISHES between substance and mode as that which exists in itself and that which exists in another thing. He lays down as an axiom that everything which is is either in itself or in another. Whether or not qualities are modes of substance it seems to be clear that Spinoza would not call them substances. The notion of qualities existing in themselves and not as the qualities of anything seems to be self-contradictory. As Descartes points out to assert the existence of real accidents by which he means the existence of qualities or quantities apart from substances is to deny the distinction between substance and accident.

Substance he writes can never be conceived after the fashion of accidents nor can it derive its reality from them whereas no reality can be ascribed to [accidents] which is not taken from the idea of substance.

Anyone who acknowledges the distinction between substance and accident also conceives qualities as accidents or attributes *i.e.* as existing in the things they qualify. Spinoza, Descartes, Locke and Aristotle do not conceive substance in the same way nor do they all use the word accident to name the characteristics which inhere in substance. Locke for example uses the word quality with almost the same generality that Spinoza gives to the word mode or Descartes and Aristotle to accident. And the word substance Locke uses in a sense that is nearer to Aristotle's meaning for the word matter when in trying to conceive bare substance as the underlying I know not what. Locke defines this substratum as that which supports qualities. Apart from its qualities substance has no positive characteristics.

Nevertheless such differences in theory leave untouched the point of agreement that qualities do not float freely—without any support—in either reality or experience. Even Berkeley's denial of matter or of bodies existing apart from

their being perceived does not turn qualities into substances for qualities as perceived are the qualities of bodies as perceived and both together have their existence in the perceiver.

The contrary view—that qualities exist in and of themselves—does not seem to receive clear or explicit expression in the tradition of the great books. It may be implied in the conception of experience which Hume develops more fully in the *Treatise on Human Nature* than in the *Enquiry*. There it seems to be supposed that each element of experience has the same reality as any other that each stands by itself without any perceptible dependence upon any other and that it has no existence beyond its momentary appearance. On this view no enduring substances exist. In addition it is as appropriate to call the elements of experience qualities as it is to call them anything else. Experience can be described as nothing but qualities and relations—or as qualities related by succession and contiguity.

The notion that experience is a continual flux in which nothing has a continuing identity from moment to moment seems to be basic to any theory which denies substances and affirms the independent reality of qualities. The theory of qualities which Plato attributes to Heraclitus or his followers illustrates this.

Their first principle Socrates tells Theaetetus is that all is motion and upon this all the affections of which we were just now speaking are supposed to depend there is nothing but motion which has two forms one active and the other passive both in endless number and out of the union and friction of them is generated a progeny endless in number having two forms sense and the object of sense.

For example when the eye and the appropriate object meet together and give birth to whiteness and the sensation connatural with it.

then while the sight is flowing from the eye whiteness proceeds from the object which combines in producing the color. This is true of all sensible objects hard warm and the like which are similarly to be regarded not as having any absolute existence but as being all of it generated by motion in their intercourse with one another for the agent has no existence until united with the patient and the patient has no existence until united with the agent.

And from all these considerations Socrates says there arises a general reflection that there is no self-existent thing but everything is becoming and in relation.

Socrates explains that for those who assert a universal flux, qualities are not only the products of motion but also are themselves in motion—not even white continues to flow white and whiteness itself is a flux or change which is passing into another color. There is no need to refute this doctrine. Socrates thinks since it refutes itself by its unintelligibility or worse its inability to say anything definite in consequence of denying that words can have a constant meaning from moment to moment.

Aristotle concurs in this attitude toward the most extreme view of the professed Heraclitians but goes on to remark that not even at different times does one sense disagree about the quality but only about that to which the quality belongs. I mean for instance that the same wine might seem if either it or one's body changed at one time sweet and at another time not sweet but at least the sweet such as it is when it exists has never yet changed. The sweet thing may become sour either in itself or to us but sweetness itself never becomes sourness.

THAT QUALITIES DO NOT change into one another whereas substances undergoing alteration change from one quality to another seems to Aristotle to distinguish quality from substance. The most distinctive mark of substance he writes appears to be that while remaining numerically one and the same it is capable of having contrary qualities. Thus one and the same color cannot be white and black. But the same individual person is at one time white at another black at one time warm at another cold at one time good at another bad. The qualities do not change but the substance in changing passes from one quality to its contrary. (The difference between change of quality or alteration and the other types of change which substances can undergo is discussed in the chapter on Change.)

Aristotle suggests another mark of distinction between substance and quality. One substance he says never stands to another as its contrary in the way in which qualities are con-

trary to one another like hot and cold white and black good and bad. A quality may have a correlative as well as a contrary e.g. if knowledge is a quality of mind the object known is its correlative whereas ignorance of the object is the contrary of knowledge. In some cases the contrary qualities may be the extremes or limits of a continuous series of intermediates e.g. white and black with all the intermediate greys. In some cases as with knowledge and ignorance the contrary qualities have no intermediates. (Contrariety and correlation most frequently exemplified by qualities are considered in the chapter on Opposition.)

Still another mark of distinction between substance and quality according to Aristotle is that qualities *do* and substances *do not* admit of variation in degree. One man cannot be more man than another he writes as that which is white may be more or less white than some other white object. The same quality moreover is said to subsist in a thing in varying degrees at different times. A white body is said to be whiter at one time than it was before or a warm body is said to be warmer or less warm than at some other time.

This observation raises a number of questions. Does variation in the degree of a quality from time to time imply that qualities themselves undergo change just as substances undergo change in quality? Do they remain one and the same in kind while varying in degree? Is this change which qualities undergo as they increase or decrease in intensity a change in quantity? Furthermore does the fact that something white can become more or less white mean that a quality can have a certain quantity even as a body can? Aquinas suggests an answer by distinguishing between what he calls the *dimensive quantity* of bodies and the *virtual quantity* of qualities. Virtual quantity is the degree or intensity which non-quantitative attributes may possess—such personal qualities as virtues and habits or such corporeal qualities as colors and textures.

But this still seems to leave a very difficult question to be answered. How can qualities have the attribute of quantity without becoming substance? On the principle which both Aristotle and Aquinas accept—that accidents exist only in substances—how can one kind of

ticle of matter though less than to make itself singly perceived by our senses. Locke's enumeration of these original or primary qualities of body which we may observe to produce simple ideas in us—solidity extension figure motion or rest and number—closely resembles Newton's list of the universal qualities of perceptible bodies and of their least particles or atoms.

In contrast the secondary qualities such as colors sounds tastes etc. are nothing in the objects themselves but powers to produce various sensations in us by their primary qualities *so* by the bulk figure texture and motion of their insensible parts. From whence Locke declares "I think it is easy to draw this observation that the ideas of primary qualities of bodies are resemblances of them and their patterns do really exist in the bodies themselves but the ideas produced in us by these secondary qualities have no resemblance of them at all. There is nothing like our ideas existing in the bodies themselves. They are in the bodies we denominate from them only a power to produce those sensations in us what is sweet blue or warm in idea is but the certain bulk figure and motion of the insensible parts in the bodies which we call so."

Locke thinks the sensation of pain confirms this insight. As the piece of steel which by its corporeal properties has the power to produce pain in us does not itself have the quality of pain so it does not have anything corresponding to the ideas of blueness or coldness which it produces in us except the power to produce these ideas through the action of its primary qualities on our senses. Yet Locke maintains that all our simple ideas of quality—not only of primary but also of secondary qualities—agree with the reality of things. By agreement he does not mean *resemblance* in the sense of copying and therefore he thinks he can without inconsistency deny any *resemblance* between sensations of color or taste and the secondary qualities of bodies while saying that "if sugar produces in us the ideas we call whiteness and sweetness we are sure there is a power in sugar to produce those ideas in our minds or else they could not have been produced by it."

Locke's point however is sometimes given exactly the opposite implication. Let us think

ers who do not speak of primary and secondary qualities attribute to bodies only the characteristics which Locke calls primary and give what he calls secondary qualities no reality at all that is no existence outside the mind. The secondary qualities are not qualities of things but of sensations or images. Descartes for example says that nothing belongs to the nature or essence of body except length breadth and depth admitting of various shapes and various motions. On the other hand colors odors savours and the rest of such things are merely sensations existing in my thought and differing no less from bodies than pain differs from the shape and motion of the instrument which inflicts it.

Hobbes similarly regards the various sensible qualities as feelings in us—the seemings or fancies of sense. All these qualities called sensible are in the object that causes them nothing but so many several motions of the matter. The object is one thing the fancy is another. One type of absurd assertion in the opinion of Hobbes consists in giving the names of the accidents of bodies without us to the accidents of our own bodies as they do that say *the color is in the body the sound is in the air etc.*"

The attributes or accidents which Descartes and Hobbes assign to bodies seem to be quantities rather than qualities. Accordingly when as Locke attributes both primary and secondary qualities to bodies Hobbes and Descartes seem to be saying that bodies differ from one another only quantitatively and that qualities or qualitative differences occur only in the realm of sense or thought. Expounding the atomism of Democritus and Epicurus Lucretius appears to make precisely this point when he says that the first beginnings or atoms are characterized only by size weight shape and motion.

The bodies of matter he writes have no color at all. They are bereft not only of color they are also sundered altogether from warmth and cold and fiery heat and are carried along barren of sound and devoid of taste. "These qualities caused by the blows of the atoms upon the sense organs of animals are the qualities of sensations not of things."

THE CRITICISMS OF THIS THEORY—whether in the formulation of Locke or in that of Descartes,

Hobbes and Lucretius—seems itself to take two forms. Aristotle for example criticizes Democritus and the atomists for treating perceptible qualities differently from perceptible quantities. According to his own theory of the objects of sense—some, like colors, sounds, odors, flavors—which Locke calls secondary qualities and the others simply qualities—are the proper objects of the special senses, such as sight, hearing, smell, taste. In contrast to these proper sensibles, each exclusively perceived by one and only one sense, there are the common sensibles: such as size and shape, number, movement and rest, which can be perceived commonly by several senses, e.g. shape is visible and tangible, motion is visible and audible. Such sensible attributes of body which Locke calls primary qualities, Aristotle no less than Hobbes or Lucretius regards as quantities, not qualities. Reporting his view Aquinas writes that the common sensibles are all reducible to quantity.

Aristotle's critical point seems to be that the atomists reduce the proper to the common sensibles as Democritus does with white and black for he asserts that the latter is a mode of the rough and the former a mode of the smooth while he reduces savours to the atomic figures. The atomists sometimes make the opposite error of representing all objects of sense as objects of touch. But in either case they have no ground in Aristotle's opinion for giving to certain sensible attributes—whether these be tangible qualities or the commonly sensible quantities—an objective reality they deny to other sensible traits like colors, sounds and odors.

Aristotle's theory of sensation and the sensible is discussed more fully in the chapter on Sense. According to it the qualities no less than the quantities perceptible by sense have real or actual existence as the attributes of bodies. On this score Aristotle does not differentiate between qualities (the proper sensibles) and quantities (the common sensibles). Just as a body actually has the shape we perceive it to have, so it actually has the color we perceive it to have. On the supposition of course that our perception is accurate in both cases. If the senses are fallible at all, we are less prone to make errors, Aristotle thinks, in the field of the

proper than of the common sensibles, e.g. the stick in water which looks bent to the eye feels straight to the hand.

PRECISELY THE OPPOSITE direction seems to be taken by Berkeley and Hume. Where Aristotle criticizes the atomists for treating quantities (or common sensibles) as objective and qualities (or proper sensibles) as subjective, Berkeley criticizes Locke for treating primary and secondary qualities differently. Where Aristotle's own theory assigns the same reality to all objects of sense, granting them an actuality apart from perception, Berkeley makes the actuality of the primary as well as the secondary qualities dependent upon their being perceived.

Some there are, writes Berkeley, who make a distinction between *primary* and *secondary* qualities. By the former they mean extension, figure, motion, rest, solidity or impenetrability and number; by the latter they denote all other sensible qualities as colors, sounds, tastes and so forth. The ideas we have of these they acknowledge not to be the resemblances of anything existing without the mind or unperceived, but they will have our ideas of the primary qualities to be patterns or images of things which exist without the mind in an unthinking substance which they call Matter.

Berkeley then argues that the so-called primary qualities are incapable of being separated in reality or thought from the secondary qualities and that, therefore, the one like the other exists only in the mind. In short, let anyone consider those arguments which are thought manifestly to prove that colors and tastes exist only in the mind, and he shall find they may with equal force be brought to prove the same thing of extension, figure, and motion. His own arguments, he thinks, plainly show it to be impossible that any color or extension at all or other sensible quality whatsoever should exist in any unthinking subject without the mind or in truth that there should be such things as an outward object.

Hume professes to adopt Berkeley's line. It is universally allowed, he quires, he writes, that all qualities of objects such as the white, black, etc. are



(1) *The nature and existence of qual it es. the relation of qual ity to substance or matter the t anscedental categories of quality*

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417d-419a SECT 48 49 422a b SECT 56-57  
423c 424a SECT 73 427b m SECT 76 427d  
428a SECT 78 428a b s ct 86-91 429c-431a  
SECT 102 432d 433a

35 HUME *Human Understanding* SECT XII DIV  
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42 KANT *Pure Reason* 15b m 23a 24a 29d 33d  
esp 30d 31a 31d 32 32d 33b [fn 1] 41c 45b  
212a-c / Int m *Metaphysics c of Mor ls* 385a m

48 MELVILLE *Moby Dick* 144b 145a

53 JAMES *Psychology* 127b 128a 457a 459b  
546b 547b [fn 1] 851b 852a 860b 882a 883a

2 The kinds of qual ity

2a Sensible and non-sensible qualities hab m  
dispositions powers or capacities and  
affect e q al ties

8 ARISTOTLE *Categories* CH 8 [8<sup>b</sup>26-10 26] 13d  
15b CH 15 [ 5<sup>b</sup>17 19] 21c / *Physics* BK V CH 2  
[22<sup>b</sup>26-30] 306d / *Metaphysics* BK V CH 14  
541c 542a CH 19-21 543d 544b

9 ARISTOTLE *History of Animals* BK VIII CH 1  
[588 18 <sup>b</sup>4] 114b d

17 PLOTINUS *Second Ennead* TR VI CH 1 60c  
61c / *Sixth Ennead* TR I CH 11 12 258b 259d  
esp CH 12 258d 259a TR III CH 16- 9 289c  
292b

20 AQUINAS *Summa Theologica* PART I Q 49  
A 2 2b-4a A 4 ANS 5a 6a Q 10 A 3 REP 3  
350a d

35 LOCKE *Human Understanding* BK II CH VIII  
SECT 8 10 134b d ECT 23 26 137a 138b CH  
XXI SECT 1-6 178b 180a CH XXI SECT 7 10  
205d 206d SECT 37 214a m CH XXV ECT 2  
238b-c CH XXII ECT 14 16 245c 246b esp  
SECT 16 246b

2b Primary and secondary qualities the re-  
lated d st action of proper and common  
sensibles

7 PLATO *Timaeus* 462c 463d 464b-465d

8 ARISTOTLE *Soul* BK II CH 6 [418<sup>b</sup>6-19] 648d  
649a K III CH 1 [425 14 29] 657b m [425<sup>b</sup>4  
1] 657c d / *Sens and the Sensible* CH I  
[437<sup>a</sup>3 10] 673d 674a CH 4 [442 30-318]  
680a b CH 6 [445<sup>b</sup>4 446<sup>a</sup>2] 683b 684c

9 ARISTOTLE *Ethics* BK VI CH 8 [1142 23 31]  
391b-c

10 GALEN *Natural Faculties* BK I CH 6 169c d

12 LUT ETIUS *Nat of Things* BK II [398-521]  
20a 21c [30-864] 24b-26a BK IV [522-721]  
51a 53d

13 AQUINAS *Summa Theologica* PART I Q 78  
A 3 esp REP 2 410a-411d A 4 RE 2 411d-413d

20 AQUINAS *Summa Theologica* PART III SUPPL  
Q 92 A 2 ANS 1032b 1034b

23 HOBBS *Leviathan* PART I 49b-d PART II  
172b

30 BACON *Novum Organum* BK I APH 66 114d  
115a

31 DESCARTES *Rules* XII 19a c / *Objectio 1 and  
Repl* 162d 165d 228c 229c 229d 230a  
231a b

34 NEWTON *Principles* BK III RULE III 270b 271a  
/ *Optics* BK I 428a b

35 LOCKE *Human Understanding* BK II CH V  
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SECT 3 178d SECT 75 200b-d CH XXII  
SECT 7 13 205d 208b SECT 37 214a b CH  
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SECT II 14 315d 316d esp SECT 13 316a b  
SECT 28 322a c

35 BERKELEY *Human Knowledge* SECT 9-15  
414d-416a SECT 25 417d-418a SECT 73  
427b c SECT 102 432d-433a

35 HUME *Human Understanding* SECT XII DIV  
122 505c d

42 KANT *Pure Reason* 15b c 23a 24a 29d 33d  
esp 30d 31a 31d 32a 32d 33b [fn 1]

53 JAMES *Psychology* 503a 651a

3 Quality and quantity

3a The distinction between quality and quan-  
tity its relation to the d stinction be-  
tween secondary and primary qual ities

8 ARISTOTLE *Categories* CH 6 [6 31 36] 106d 1  
CH 8 [11 5 4] 16a b / *Generation and Corrup-  
tion* BK I CH 2 [315<sup>b</sup>32 316 4] 411b c / *Meta-  
physics* BK V CH 4 [1014<sup>b</sup>0-27] 535a CH 14  
[1020<sup>b</sup>3 8] 541d CH 28 [1024<sup>b</sup>10 16] 546c  
BK V CH 1 [1052<sup>b</sup> 1053<sup>b</sup>8] 578d 580a BK XI  
CH 6 [1063<sup>a</sup>22 28] 591c K XII CH 4 [1070<sup>a</sup>31  
b9] 599d 600a BK XIII CH 8 [1083<sup>a</sup>1 1]  
614d

12 LUCRETIIUS *Nature of Things* BK I [29<sup>b</sup> 3 4]  
4d BK II [398-521] 20a 21c [730-864] 24b  
26a BK III [221 227] 32d 33a BK IV [522  
721] 51a 53d

17 PLOTINUS *Second Ennead* TR IV CH 13 55b d  
/ *Fourth Ennead* TR VII CH 8 196a b / *Soul*  
*Enn ad* TR III CH 14 288b 289a

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- The distinction of alteration or change in quality from other kinds of change see CHANGE 6 9
- The general theory of sensitive knowledge and its bearing on the objectivity of sensible qualities see KNOWLEDGE 6b(1) SENSE 4-4c

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups

- I Works by authors represented in this collection
- II Works by authors not represented in this collection

For the date place and other facts concerning the publication of the works cited consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*

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## Chapter 76 QUANTITY

### INTRODUCTION

AS indicated in the chapter on QUALITY the traditional consideration of that fundamental notion involves questions concerning the relation of quality and quantity and the priority of one or the other in the nature of things. According to one theory of the elements difference in quality rather than in quantity seems to be the defining characteristic. Certain kinds of qualities it is thought inhere in substances directly and without being based upon their quantitative aspects. But it is seldom if ever suggested that quality takes universal precedence over quantity.

In the tradition of western thought the opposite view—that quantities are primary—seems to occur with some frequency at least so far as the realm of material things is concerned. It is held that bodies have only quantitative attributes. Such sensible qualities as colors, odors, tastes, textures are thought to have no reality apart from experience or as it is sometimes put, red and blue, hot and cold, sweet and sour are the qualities of sensations, not of things.

Those who think that bodies can exist without being perceived also tend to think that bodies can exist totally bereft of qualities but never without the dimensions of quantity. The notions of matter and quantity seem to be inseparably associated. For matter to exist without existing in some quantity seems to be as inconceivable as for experience to exist without qualitative diversity. As if there could be matter, says Hobbes, that had not some determined quantity when quantity is nothing else but determination of matter, that is to say of body by which we say that one body is greater or less than another by thus or thus much.

The use of the word quality where quantity appears to be meant only slightly obscures

this point. Newton refers to extension, hardness, impenetrability, mobility and inertia as the qualities of bodies which are to be esteemed the universal qualities of all bodies whatsoever. Following him, Locke calls our simple ideas of solidity, extension, figure, motion or rest and number ideas of the original or primary qualities of bodies and says that even if bodies are divided till their parts become insensible they must retain still each of them all those qualities. For division can never take away either solidity, extension, figure or mobility from any body but only makes two or more distinct separate masses of matter of that which was one before.

Though Locke uses the word quality for those attributes which belong to bodies even when they are not sensed or are not even sensible he also appears to recognize that number, extension and figure are as the traditional objects of the mathematical sciences traditionally regarded as quantities rather than qualities. It has been generally taken for granted, he writes,

that mathematics alone are capable of demonstrative certainty but to have such an agreement or disagreement as may intuitively be perceived being as I imagine not the privilege of the ideas of number, extension and figure alone, may possibly be the want of due method and application in us, that demonstration has been thought to have so little to do in other parts of knowledge. Yet he adds, "other simple ideas whose modes and differences are made and counted by degrees and not quantity we have not so nice and accurate distinction of their differences as to perceive or find ways to measure their just equality."

Newton also gives some indication that his universal qualities are quantities. He restricts them to attributes which admit neither intensification nor remission of degrees. One dif-

ference between quantity and quality according to an ancient opinion is that qualities are subject to variation in degree quantities not. One thing may be white or hot to a greater or less degree than another. Aristotle observes but one thing cannot be two cubits long in a greater degree than another. Similarly with regard to number what is three is not more truly three than what is five is five. Nor is there any other kind of quantity of all that have been mentioned with regard to which variation in degree can be predicated.

GRANTED THAT WHAT Newton and Locke call qualities are not qualities except in the sense in which the word quality means attribute difficult questions remain concerning their enumeration of the *universal* or *primary* attributes of bodies. Do extension hardness impenetrability motion and rest figure and number constitute an exhaustive enumeration? Are these *all* the corporeal quantities or only the basic ones from which others can be derived? Are they all of the same kind and among them are some more fundamental than others?

Descartes for example seems to make extension the one primary attribute of bodies. I observed he writes that nothing at all belonged to the nature or essence of bodies except that it was a thing with length breadth and depth admitting of various shapes and various motions. I found also that its shape and motions were only modes which no power could make to exist apart from it. Finally I saw that gravity hardness the power of heating of attracting and of purging and all other qualities which we experience in bodies consisted solely in motion or its absence and in the configuration and situation of their parts.

With motion and figure modes of extension and all the other properties of bodies the result of their motions or configurations the three dimensions of extension (or spatial magnitude) become almost identical with body itself. Considering the statement *body possesses extension* Descartes points out that though the meaning of *extension* is not identical with that of *body*, yet we do not construct two distinct ideas in our imagination one of body the other of extension but merely a single image of extended body and from the point of view of the thing

it is exactly as if I had said *body is extended* or better *the extended is extended*.

But Descartes adds when we consider the expression *extension is not body* the meaning of the term *extension* becomes otherwise than as above. When we give it this meaning there is no special idea corresponding to it in the imagination. It becomes a purely abstract entity which may properly be the object of the geometer's consideration but then it should be treated as an abstraction and not as if it had independent reality.

Aquinas also distinguishes between physical and mathematical quantities or the quantities which inhere in bodies and the quantities abstracted therefrom. Quantities such as number dimension and figure which are the terminations of quantity can be considered apart from sensible qualities and this is to abstract them from sensible matter. But they cannot be considered without understanding the substance which is subject to quantity—that is, corporeal or material substance. Like a body a mathematical solid has three dimensions but as Aquinas points out lacking matter this three-dimensional object does not occupy space or fill a place. The three spatial dimensions are not for him however the only primary quantities of either the physical or the mathematical body. Number and figure are fundamental.

Still another enumeration of corporeal quantities is given by Lucretius in his description of the properties of atoms. According to him atoms vary in size weight and shape. Each of these attributes is a distinct quantity not reducible to the others. In addition atoms have the property which Newton calls impenetrability and Locke solidity. But whereas atoms may be unequal in size and weight and different in shape or configuration they are all equal in their solidity being absolutely indivisible through lack of void or pores.

THE DISTINCTION BETWEEN mathematical and physical quantity and the enumeration or ordering of diverse quantities seem to require the consideration of two prior questions. What is the nature of quantity? What are the kinds or modes of quantity?

Terms like quantity and quality do not appear to be susceptible of definition. Quantity is

perhaps the fundamental notion in the mathematical sciences yet neither it nor such terms as magnitude, figure, and number are defined in the great books of geometry or arithmetic. In Aristotle's theory of the categories as the highest genera such terms as substance, quantity, quality and relation are strictly indefinable if to define a term is to give its genus and differentia.

With quite a different theory of the categories Kant also treats them as indefinable. As indicated in the chapter on QUALITY they are for him the transcendental concepts of the understanding. He uses such terms as quantity, quality and relation with modality as a coordinate fourth to represent the four major groupings of the categories. In his table of the categories Kant's treatment of quantity under which he lists the concepts of unity, plurality and totality parallels the treatment of quantity in his table of judgments according to which judgments are classified as universal, particular and singular. All these considerations of quantity belong to what Kant calls his transcendental logic. So far as Kant considers quantity in its mathematical or physical (rather than logical) significance he discusses it in connection with the transcendental forms of space and time which provide according to him the *a priori* foundations of geometry and arithmetic—the sciences of magnitude and number. But in none of these connections are quantity and its principal modes, magnitude and number defined.

Though indefinable quantity can according to Aristotle be characterized by certain distinctive marks. As we have already observed where qualities admit of variation in degree quantities do not. With few exceptions each quality has a contrary whereas definite quantities such as an extent or a number are not opposed by contrary quantities. Aristotle considers the possibility that such apparently quantitative terms as large and small may also appear to be contrary to one another as hot is to cold or white is to black. But he argues these terms represent quantities only relatively not absolutely. When things are compared with respect to size one may be judged to be both larger and smaller than others but the sizes of each of two things unequal in size are not contrary to one another.

<sup>1</sup> These two characteristics (lack of contrariety and of variation in degree) do not however satisfy Aristotle's search for a distinctive mark of quantity. They apply to substances such as tree or man as well as to figures and numbers. This fact could have some bearing on the issue whether the objects of mathematics have a separate existence comparable to that of substances but in Aristotle's view at least quantities are not substances. Physical quantities are the attributes of bodies the objects of mathematics consist of quantities abstracted from sensible matter.

Concerning quantity as one of the attributes of substance Aristotle says that the most distinctive mark of quantity is equality and inequality. Only when things are compared quantitatively can they be said to be equal or unequal and conversely in whatever respect things are said to be equal or unequal in that respect they are determined in quantity.

How far is it true Plotinus asks that equality and inequality are characteristic of quantity? It is significant he thinks that triangles and other figures are said to be similar as well as equal. It may of course be the case that the term similarity has a different sense here from that understood in reference to quality or another alternative, Plotinus adds may be that similarity is predicable of quantity only insofar as quantity possesses [qualitative] differences. In any case comparison whether in terms of equality or likeness seems to generate the relationships fundamental to the mathematical treatment of quantities.

Euclid does not define magnitude in itself but only the relation of magnitudes to one another. The first four definitions in the fifth book of his *Elements* illustrate this: 1. A magnitude is a part of a magnitude the less of the greater when it measures the greater. 2. The greater is a multiple of the less when it is measured by the less. 3. A ratio is a sort of relation in respect of size between two magnitudes of the same kind. 4. Magnitudes are said to have a ratio to one another which are capable when multiplied of exceeding one another.

Archimedes also states his understanding of the distinction between kinds of magnitudes—without defining these kinds—by reference to their comparability. Assuming that any given



magnitude can by being multiplied exceed any other magnitude of the same kind he is able to know that magnitudes are of the same kind if by being multiplied they can exceed one another. It follows that an indivisible point and a finite or divisible magnitude such as a line are not of the same kind for they cannot have a ratio to one another. For the same reason the length of a line, the area of a plane and the volume of a solid are not magnitudes of the same kind. Since they bear no ratio to one another they are quantitatively incomparable.

THE EMPHASIS UPON RATIOS has some significance for a controversial point in the definition of the subject matter of mathematics. In the tradition of the great books, mathematicians and philosophers seem to agree that arithmetic and geometry have as their objects the two principal species of quantity—number and magnitude. This is the opinion of Euclid, Nicomachus, Descartes and Galileo; it is the opinion of Plato, Aristotle, Aquinas, Bacon, Hume and Kant. But writers like Russell and Whitehead, who reflect developments in mathematics since the 19th century, reject the traditional opinion as unduly narrowing the scope of mathematics.

To give adequate expression to the universality of mathematics they sometimes propose that it should be conceived as the science not merely of quantity but of relations and order. In view of the fact that the great books of mathematics deal with quantities largely in terms of their relationship or order to one another, the broader conception seems to fit the older tradition as well as more recent developments. Whether there is a genuine issue here concerning the definition of mathematical subject matter may depend therefore on whether the fundamental terms which generate the systems of relationship and order are or are not essentially quantitative. To this question the traditional answer seems to be that the mathematician studies not relations of any sort but the relation of quantities.

The problem of the kinds of quantity seems to appeal for solution to the principle of commensurability. For example, Galileo's observation that finite and infinite quantities cannot be compared in any way implies their utter

diversity. But he goes further and says that the attributes larger, smaller and equal have no place either in comparing infinite quantities with each other or in comparing infinite with finite quantities. If the notion of quantity entails the possibility of equality or inequality between two quantities of the same kind, then either infinite quantities are not quantities or each infinite quantity belongs to a kind of its own.

The principle of incommensurability seems to be applied by mathematicians to distinguish quantities which are different species of the same generic kind. For example, the one-dimensional, two-dimensional and three-dimensional quantities of a line, a plane and a solid, are incommensurable magnitudes. The number of days in a year and the number of years in infinite or endless time are incommensurable multitudes.

The distinction between magnitude and multitude (or number) as two modes of quantity appears to be based upon another principle, that of continuity and discontinuity. Yet the question can be raised whether magnitudes are commensurable with numbers, at least to the extent of being measured by numbers. It may be necessary, however, to postpone answering it until we have examined the fundamental difference between magnitude and multitude as generic kinds of quantity.

What if magnitude and multitude or continuous and discontinuous quantity do not divide quantity into its ultimate kinds? Aquinas, for example, proposes that the two basic kinds are *dimensive* and *virtual* quantity. There is quantity of *bulk* or *dimensive* quantity, he writes, which is to be found only in corporeal things and has therefore no place in God. There is also quantity of *virtue* which is measured according to the perfection of some nature or form. It is in the latter sense, according to Aquinas, that Augustine writes of things which are great but not in bulk, to be greater is to be better.

Just as *dimensive* quantities can be incommensurable with one another, so with respect to *virtual* quantities, God's infinite perfection makes him incommensurable with finite creatures. But a *dimensive* quantity cannot be either commensurable or incommensurable with

a virtual quantity. The standard of measure by which dimensive quantities are compared and the standard by which virtual quantities are ordered represent utterly diverse principles of commensurability. Euclid's statement that those magnitudes are said to be commensurable which are measured by the same measure and those incommensurable which cannot have a common measure cannot be extended to cover dimensive and virtual quantities for the very meaning of measure changes when we turn from the dimensions of a body to the perfections of a being.

The distinction which Aquinas makes between dimensive and virtual magnitudes has its parallel in the distinction he makes between two kinds of number for both depend on the difference between *material* and *formal* quantity. Division is twofold he writes. One is material and is division of the continuous from this results number which is a species of quantity. Number in this sense is found only in material things which have quantity. The other kind of division is formal and is effected by opposite or diverse forms and this kind of division results in a multitude which does not belong to a genus but is transcendental in the sense in which being is divided by one and many. Only this kind of multitude is found in immaterial things. According to the example suggested in the context such is the multitude which is the number of persons in the Trinity.

THE MATERIAL quantities of physics and mathematics seem to fall under the two main heads of magnitude and multitude. Quantity is either discrete or continuous writes Aristotle.

Instances of discrete quantities are number and speech of continuous lines surfaces solid and besides these time and place. Nicomachus explains the two kinds of quantity by examples.

The unified and continuous he says is exemplified by an animal the universe a tree and the like which are properly and peculiarly called magnitudes to illustrate the discontinuous he points to heaps of things which are called multitudes a flock for instance a people a chorus and the like.

The principle of this distinction appears to be the possession or lack of a common boundary. To take Aristotle's example of speech as a

quantity the letters of a written word or the syllables of vocal utterance comprise a multitude rather than a continuum or magnitude

because there is no common boundary at which the syllables join each being separate and distinct from the rest. The continuity of magnitudes can be readily seen according to Aristotle in the possibility of finding a common boundary at which the parts of a line join or make contact. In the case of a line he says

this common boundary is the point in the case of a plane it is the line. Similarly you can find a common boundary in the case of the parts of a solid namely either a line or a plane.

Accepting the principle of the distinction Plotinus insists that number and magnitude are to be regarded as the only true quantities. All others like space and time or motion are quantities only in a relative sense that is insofar as they can be measured by number or involve magnitude. Galileo raises another sort of difficulty. The Aristotelian conception of magnitudes as continuous quantities implies their infinite divisibility. This means in his terms that every magnitude is divisible into magnitudes and that it is impossible for anything continuous to be composed of indivisible parts. Galileo acknowledges the objections to building up continuous quantities out of indivisible quantities on the ground that the addition of one indivisible to another cannot produce a divisible for if this were so it would render the indivisible divisible. Suppose a line to comprise an odd number of indivisible points. Since such a line can in principle be cut into two equal parts we are required to do the impossible namely to cut the indivisible which lies exactly in the middle of the line.

To this and other objections which seem to him of the same type Galileo replies that a divisible magnitude cannot be constructed out of two or ten or a hundred or a thousand indivisibles, but requires an infinite number of them. I am willing he says to grant to the Peripatetics the truth of their opinion that a continuous quantity is divisible only into parts which are still further divisible so that however far the division and subdivision be continued no end will be reached but I am not so certain that they will concede to me that none of these divisions of theirs can be a final

one as is surely the fact because there always remains another—the final and ultimate division is rather one which resolves a continuous quantity into an infinite number of indivisible quantities.

The question remains whether these indivisible units an infinite number of which constitute the continuity of a finite magnitude can properly be called quantities. At least they are not magnitudes as is indicated by Euclid's definition of a point as that which has no part or by Nicomachus' statement that the point is the beginning of dimension but is not itself a dimension. If in addition to having position a point had size or extent a finite line could not contain an infinite number of points. This problem of infinite and infinitesimal quantities is more fully discussed in the chapter on INFINITY.

WITHIN EACH OF THE two main divisions of quantity—magnitude and number—further sub-divisions into kinds are made. Relations of equality and inequality or proportions of these ratios may occur between quantities different in kind—different plane figures for example. But the great books of mathematics indicate other problems in the study of quantity than those concerned with the ratios and proportions of quantities. The classification of lines and figures results in the discovery of the properties which belong to each type. Possessing the same properties all lines or figures of a certain type are similar in kind not equal in quantity. In addition to developing the properties of such straight lines as perpendiculars and parallels or such curved lines as circles and ellipses parabolas and hyperbolas the geometer defines the different types of relationship in which straight lines can stand to curves e.g. tangents secants asymptotes.

As there are types of lines and figures both plane and solid so there are types of numbers. Euclid and Nicomachus divide the odd numbers into the prime and the composite—into those which are divisible only by themselves and unity such as 5 and 7 and those which have other factors such as 9 and 15. The composite are further differentiated into the variety which is simply secondary and composite and the variety which in itself is secondary and composite but relatively is prime and incom-

posite. To illustrate the latter Nicomachus asks us to compare 9 with 25. Each in itself, he writes, is secondary and composite but relatively to each other they have only unity as a common measure and no factors in them have the same denominator for the third part in the former does not exist in the latter nor is the fifth part in the latter found in the former.

The even numbers are divided by Nicomachus into the even times even (numbers like 64 which can be divided into equal halves and their halves can again be divided into equal halves and so on until division must stop) the even times odd (numbers like 6 10 14 18 which can be divided into equal halves but whose halves cannot be divided again into equal halves) and the odd times even (numbers like 24 28 40 which can be divided into equal parts whose parts also can be so divided and perhaps again these parts but which cannot be divided in this way as far as unity). By another principle of classification the even numbers fall into the superabundant the deficient and the perfect. The factors which produce superabundant or deficient numbers when added together amount to more or less than the number itself but a number is perfect Nicomachus writes when comparing with itself the sum and combination of all the factors whose presence it will admit it neither exceeds them in multitude nor is exceeded by them. It is equal to its own parts as for example 6 for 6 has the factors half third and sixth 3 2 and 1 respectively and these added together make 6 and are equal to the original number. At the time of Nicomachus only four perfect numbers were known—6 28 496 8128 since his day seven more have been discovered.

The further classification of numbers as linear plane and solid and of plane numbers as triangular square pentagonal etc. assigns properties to them according to their configurations. The analysis of figurate numbers by Nicomachus or Pascal represents one of the great bridges between arithmetic and geometry of which the other in the opposite direction is the algebraic rendering of geometrical loci in Descartes' analytical geometry.

In either direction of the translation between arithmetic and geometry discontinuous and continuous quantities seem to have certain

properties in common at least by analogy Euclid for example proposes numerical ratios as the test for the commensurability of magnitudes: Commensurable magnitudes have to one another the ratio which a number has to a number. With the exception of infinite numbers all numbers are commensurable and so provide the criterion for determining whether two magnitudes are or are not commensurable.

Introducing the notion of dimensionality in to the discussion of figurate numbers Nicomachus observes that mathematical speculations are always to be interlocked and to be explained one by means of another. Though the dimensions by which linear, plane and solid numbers are to be distinguished are more closely related to magnitude yet the germs of these ideas are taken over into arithmetic as the science which is the mother of geometry and more elementary than it. The translation does not seem to fail in any respect. The only non-dimensional number unity finds its geometrical analogue in the point which has position without magnitude.

When diverse magnitudes are translated into numbers the diversity of the magnitudes seems to be effaced by the fact that their numerical measures do not have a corresponding diversity. The numbers will appear to be commensurable though the magnitudes they measure are not as magnitudes comparable. As Descartes points out it is necessary therefore to regard each order of magnitude as a distinct dimension.

By dimension Descartes writes: I understand nothing but the mode and aspect accorded to which a subject is considered to be meas-

urable. Thus it is not merely the case that length, breadth and depth are dimensions but weight also is a dimension in terms of which the heaviness of objects is estimated. So too speed is a dimension of motion and there are an infinite number of similar instances. For that very division of the whole into a number of parts of identical nature whether it exist in the real order of things or be merely the work of the understanding gives us exactly that dimension in terms of which we apply number to objects.

The theory of dimensions can be illustrated by the choice of clocks, rules and balances as the fundamental instruments for the measurement of physical quantities. They represent the three dimensions in the fundamental equations of mechanics—time, distance and mass.

Additional dimensions may be introduced in electricity or thermodynamics. In developing the theory of heat Fourier for example enumerates five quantities which in order to be numerically expressed require five different kinds of units, namely the unit of length, the unit of time, that of temperature, that of weight and finally the unit which serves to measure quantities of heat. To which he adds the remark that every undetermined magnitude or constant has one dimension proper to itself and that the terms of one and the same equation could not be compared if they had not the same exponent of dimension.

A fuller discussion of the basic physical quantities, their definition, measurement and their relation to one another belongs to the chapter on MECHANICS. The consideration of time and space as quantities or physical dimensions occurs in the chapters devoted to those subjects.

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passage referred to. For example in 4 HOMER *Iliad* bk 11 [265 83] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left and right sides of the page, the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR DIVISION.** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* bk 11 [265 83] 12d.

**BIBLIOGRAPHICAL REFERENCES.** The references are to book chapter and verse. When the King James and Douay versions differ in the title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) *I Esdras* 7 46.

**SYMBOLS.** The abbreviation esp calls the reader's attention to one or more especially relevant part of a whole if the passage signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

**For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.**

The nature and existence of quantity  
relation to matter substance and body  
the transcendent categories of quantity

7 PLATO *Theaetetus* 518b 519b / *Sophist* 566d / *Phileas* 616a

8 ARISTOTEL *Categories* ch 5 [3<sup>24</sup> 4 9] 8a b ch 6 9a 11a / *Physics* bk 1 ch 13 [79<sup>6-1</sup> 1] 108c ch 8 [81 40-6] 111b / *Topica* bk 1 ch 9 147 b / *Physics* bk 2 [185<sup>20-34</sup> 2] 260a b ch 4 [187<sup>14</sup> 22] 262d bk 1 [2 193<sup>b</sup> - 94 11] 270a bk 1 ch 1 [2 8<sup>19-24</sup> 2] 287b-c bk 2 288b 289 / *Metaphysics* bk 1 [5 985 - 986<sup>2</sup> 2] 503d 504b ch 6 [987<sup>10-34</sup> 2] 505 506a ch 8 [989<sup>20-990<sup>32</sup></sup> 2] 508 9 [99<sup>9-992<sup>b</sup></sup> 7] 509d 511a bk 1 ch 5 [995<sup>3</sup> 18] 514a [996 13-15] 514 bk [997<sup>9</sup> - 998 9] 516b d bk 5 520c 521b bk v ch 13 541b bk v ch 10 [35<sup>3</sup> 36<sup>2</sup>] 559b-c ch [1036<sup>12-1037</sup> 4] 560b-c bk vi ch 13 [1043<sup>34</sup> 44 14] 568b d bk x ch 1 [45<sup>28</sup> 3] 570b bk x ch 2 [60 36<sup>3</sup> 9] 588 d ch 3 [6 29<sup>24</sup> 4] 589c bk xi ch 1 [69 8-25] 598a ch 5 [1071<sup>23</sup> 2] 600d 601a bk xiii ch 1 3 607a 610a bk 6-9 611d 618 bk xi 619b d 626d / *Soul* bk ch 4 [4 8<sup>31</sup> 1]-ch 5 [4 9<sup>18</sup> 18] 638d 639c bk i ch 7 [43 13 9] 664b

11 N COMA HUI *Arithmetic* bk 1 811b 812a  
17 P OLYNUS *Secunda Enchiridion* ch 9 53 b ch 1- 53d 55b / *Third Enchiridion* ch 16-18 116c 118 / *Fourth Enchiridion* ch 8 196a b / *Fifth Enchiridion* ch 4 210b- / *Sixth Enchiridion* ch 4-5 253b 254d tr ii ch 13 276a c tr i ch 15 286d 289c tr vi 310d 321b esp c 3-7 311c 314 ch 3 18 316d 321b  
19 AQUINAS *Summa Theologica* PART I Q 3 A 2 CONTRARY 15c 16a Q 5 A 3 REP 4 25a d Q 7 A 1 RE 2 31a d Q 8 A 2 R 3 35 36b Q 10 A 6 ANS 45 -46d Q 11 A R 1 46d 47d A 3 REP 2 49a c Q 44 A REP 3 238b-239a Q 85 A RE 451 453  
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23 HOBBS *Leviathan* ART II 172b PART V 269d 270a 271d 272  
31 D CARR *Rules* xii 18d 19c v 29b 30b / *Objections and Replies* 154 231 II  
31 S I O A *Ethica* RT OP 15 c ol. 360b-361d PA Y RO 2 374a  
35 LOCKE *Human Understanding* g k ch viii ct 9- 6 134 138b passim ch 5 ct 9 134 xx i s ct 9 206b xxxi s ct 2

1 *The nature and existence of quantity its relation to matter substance and body the transcendental categories of quantity*

- III BERKELEY *Human Knowledge* SECT 9 13 414d-416a SECT 73 427b c  
42 KANT *Pure Reason* 15b c 41c 45b esp 43d 44a 69c 72c 74b-76c 137a 140a c 161d 163a 211c 213a  
53 JAMES *Psychology* 551a 874a 878a esp 875a 876b 878a

1a The relation between quantity and quality  
reducibility of quality to quantity

- 7 PLATO *Meno* 176d 177a / *Timaeus* 458b 460b 462b 465d / *Philebus* 615c 616c  
8 ARISTOTLE *Categories* CH 7 [6<sup>2</sup>20-26] 11b CH 8 [10 11 16] 15a b [10<sup>b</sup> 6-11 14] 15d 16b / *Generation and Corruption* X I CH 2 [315<sup>b</sup> 32 316 4] 411b c / *Metaphysics* I BK V CH 4 [1014<sup>2</sup>20-27] 535a III 4 [1020<sup>b</sup>3-8] [1020<sup>b</sup> 14 17] 541d CH 8 [1024<sup>2</sup>10-16] 546c BK X CH I [1 1<sup>b</sup> 1053<sup>b</sup>8] 578d 580a BK XI CH 6 [1063 22-28] 591c BK XII CH I [1069<sup>2</sup>18 25] 598a BK XIII C I 8 [1083 1 17] 614d / *Soul* BK III CH I [425 14 19] 657b / *Sense and the Sensible* CH 6 [445<sup>b</sup> 446 2] 683b 684c CH 7 [448<sup>2</sup>20-216] 687 d [449<sup>2</sup>21 30] 688d 689a  
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19 AQUINAS *Summa Theologica* PART I Q 8 A 2 REP 3 35c 36b Q 42 A 1 REP 1 2 224b 225d Q 78 A 3 REP 2 410a 411d  
20 AQUIN *Summa Theologica* PART II Q 40 A 2 5 2b-4a Q 50 A 1 REP 3 6 7b Q 5 15d 19c Q 53 A 2 3 21a 22d PART II IF Q 24 A 4 10 491d-498 PART III Q 7 A 2 754c 755c  
23 HOES *Leviathan* II RT I 49a d PART II 172b  
31 DESCARTES *Rules* XII 19a c / *Of the Passions* 162d 165d 228c 229c 231a III  
34 NEWTON *Optics* X I 428a b 431 455a esp 450a-453a  
35 LOCKE *Human Understanding* BK II C I VII SECT 9-26 134c 138b pas n CH XXI SECT 3 178d SECT 75 200b d I XXII SECT 8-9 206a c SECT II 206d 207a SECT 37 214a b CH XXXI S CT 2 239b d BK IV C I II SECT 9-13 311b 312b CH III S CT 12 13 316a d SECT 28 322a c

35 BERKELEY *Human Knowledge* SECT 9-15 414d 416a SECT 23 417d-418a SECT 3 427b II SECT 102 432d-433a

35 HUME *Human Understanding* SECT XII IV 122 505c d

42 KANT *Pure Reason* 15b II 23a 24a 32d 33b [In I] 68a 72c 211c 213a

43 MILL *Utilitarianism* 448c d 475b [In I]

46 HEGEL *Philosophy of Right* PART I par 63 28b II ADDITIONS 40 122d 123b

50 MARX *Capital* 149d

53 JAMES *Psychology* 104b 319b 322a 346a 348a

54 FREUD *Hysteria* 87a / *Interpretation of Dreams* 384d / *Narcissism* 403d 404a / *Beyond the Pleasure Principle* 639b d

1b The relation of quantities equality and proportion

7 PLATO *Phaedo* 228d 229c / *Parmenides* 494a II 500c 502a 508c d 510d 511a / *Theaetetus* 518b 519b

8 ARISTOTLE *Categories* CH 6 [6<sup>2</sup>2, 32] 10d 11a / *Generation and Corruption* BK I CH 6 [333 27 34] 434a / *Metaphysics* BK V CH 13 [1020 22 26] 541c CH 15 [1020<sup>2</sup>26-1021 14] 542a c BK X CH 3 [1054<sup>2</sup> 3] 581b CH 5-6 583a 584c BK XIV CH I [1058<sup>2</sup>20-29] 620c / *Memory and Reminiscence* CH 2 [45 7 23] 694b d

9 ARISTOTLE *Ethics* BK II CH 6 [1100<sup>2</sup>6-6<sup>2</sup>1] 351d 352a BK V CH 3 378c 381d *Problems* / *Politics* BK V CH I [1301<sup>2</sup>29-36] 503a

11 EUCLID *Elements* BK I COMMON NOTIONS 1a PROP 4 4a b PROP 8 6b 7a PROP 26 16a 17b BK V 81a 98b esp. DEFINITIONS 5 81a 79-10 81b BK VI PROP 23 117a b BK X 191a 300b

11 ARCHIMEDES *Sphere and Cylinder* BK I ASSUMPTIONS 404b / *Spirals* 484b / *Quadrature of the Parabola* 527a b

11 NICOMACHUS *Arithmetic* BK I II 821d 831d BK II 841c 848d

16 HERPHER *Harmonies of the World* 1012b-1014b 1078b 1080a

17 PLOTINUS *Sixth Ennead* TR I CH 15 2 9a c

19 AQUINAS *Summa Theologica* PART I Q 13 A 7 ANS 68d 70d Q 42 A 1 ANS 2nd REP 1 224b 225d Q 47 A 2 REP 2 257b 258c

20 AQUINAS *Summa Theologica* PART II Q 113 A 9 AN 368d 369c

28 GALILEO *Two New Sciences* FIRST D I 142a 145a

31 DESCARTES *Discourse* PART II 47c / *Geometry* BK 295a 298b BK III 332b 341b

34 NEWTON *Principles* I BK I LE 14 I 25a 159b LEM 14 2 168a 169b

35 LOCKE *Human Understanding* BK IV CH II S CT 9 I 311b c

38 ROUSSEAU *Social Contract* BK III 407b 408b

- 42 KANT *Pure Reason* 73 d 11c 213a / *J* *dge*  
ment 497a-498b passim  
50 MARK *Capital* 19a 25d esp 19d 20b 25a d  
53 JAMES *Psycolo* 3 551a 874a 878a esp 874b  
875a

## 2 The kinds of quantity continuous and discontinuous

- 7 PLATO *Parmenides* 499d 500c / *Th* *setetus*  
515b-c  
8 ARISTOTLE *Categories* CH 6 [3<sup>b</sup> -5 37] 9a d  
/ *Physics* BK IV C 1 4 [2<sup>a</sup> 29-34] 290 CH  
[21<sup>b</sup> 3-6] 291d BK V CH 3 [227 10-34]  
307d 308b BK VI CH 1 2 312b d 315d /  
*Metaphysics* BK I 1 [268<sup>b</sup> 6-13] 359a / *Genera*  
*tion* a d *Corruption* BK I CH 2 [315<sup>b</sup> 25 317<sup>b</sup> 17]  
411b-413a BK I CH 10 [337<sup>a</sup> 22 34] 439b = /  
*Metaphysics* BK III CH 4 [1001<sup>a</sup> 4-25] 519d  
520c; BK V CH 6 [1015<sup>b</sup> 35-1016<sup>b</sup> 17] 536b c  
[10<sup>a</sup> 6-32] 537a b CH 13 [1020 9-14] 541b  
BK VIII CH 3 [1043<sup>b</sup> 33 1044 4] 568b d K  
CH 1 [105 15 37] 578b d CH 3 [1<sup>a</sup> 54<sup>a</sup> 0-29]  
581a BK XI CH 1 [1068<sup>b</sup> 26-1 69 14] 597d  
598a c K XIV CH 1 [1087<sup>b</sup> 34 1 88 14] 620 b  
9 ARISTOTLE *Ethics* BK II CH 6 [1<sup>a</sup> 626-8]  
351d  
11 EUCLID *Elements* BK V D NITIONS 3-5  
81 BK VII DEFINITIONS 2 127a 20 127b  
BK V P OP 1 191b 192a  
11 ARCHIMEDE *Sphere and Cylinder* BK I  
A SUMPTIONS 5 404b / *Spirals* 484b /  
*Quadrature fsh Parabola* 527 b  
11 NICOMACHUS *Arithmetica* BK 811d 812b  
17 PLOTINUS *Seco d Enn d* TR IV C 1 52c /  
*Fu th Enn d* TR II CH 1 139d 140a / *Sixth*  
*En d* TR I CH 4 253b 254b TR III CH 13  
287d 288a  
19 AQUINA *Summa Theologiae* PART I Q 3 A 1  
RE 14b 15b Q 7 A 3 32c 34c Q 17 2  
47d-48d Q 30 A 3 ANS and REP 2 169b-170c  
Q 42 I REP 1 224b 225d Q 52 A 1 278d  
279b Q 85 A 8 R 2 460b 461b  
20 AQUINA *Summa Theologiae* CA P RT II I Q 24  
A 4 REP 1 491d 492b PAR III Q 7 A 12 R  
1 754 755c  
28 GILLES DE LA REINE *Scienc* RST DAY  
139c 153a passim TH RD DAY 201a 202  
30 BONONIUS *Ontologia* BK I APH 4<sup>o</sup> 110d  
111a  
31 D SCARTES *Rul* x 32b 33b / *Discours* e  
PART IV 52d 53a / *M* *duat* = v 93b /  
*Geometry* BK I 295 296b  
31 S NOZZA *Ethica* RT I 13 COROL 359d  
PRO 15 S OL 360b 361d  
33 PASCAL *Geometric* l *Dem* *st* a *ion* 434b  
439b  
34 NEWTON *Prin p*c BK I LEMMA 1 25a  
LEMMA I SCHOL 31 32a  
35 LOCKE *Humi n Under t* ad g K CH XV  
S CT 9 164d d CH I CT 3 4 165d 166b  
35 BEKKEL *y Human Kno* 'age S CT 3-13  
437-439c

- 35 HUM *Human Undrstand ng* SECT XII DIV  
124-125 506a 507a  
42 KANT *Pure Reason* 66d 72c esp 68a 72c  
131c 135a 140a c esp 137d 138d [ant thesis]  
152a d 161d 163a  
51 TOLSTOY *Wa and Peace* BK XI 469a d

## 3 The magnitudes of geometry the relations of dimensionality

- 8 ARISTOTLE *Cat gories* C 6 [5 I 23] 9b-c CH  
8 [11-16] 15a b / *Topics* BK VI C 1 6 [43<sup>b</sup>  
11 23] 197b / *H* *ent* BK I CH 359a c BK II  
CH 4 [286<sup>b</sup> 12-33] 378a-c / *Metaphysics* K I  
CH 9 [992 10-24] 510b c BK V CH 6 [1<sup>a</sup> 16<sup>b</sup> 25-  
3] 537b BK XI CH 2 [1077<sup>a</sup> 14 37] 608b d  
11 EUCLID *Elements* BK I DEFINITIONS 1 5  
1 14 1b BK XI = INITION 1 301a  
11 NICOMACHUS *Arithmetica* BK 1 832b d  
16 KEPLER *Ep* *me* xiv 865a b  
17 P OTINUS *Sixth Ennead* TR II CH 13 276a c  
TR II CH 3 14 287d 289a  
19 AQUINAS *Summa Theologiae* PART I Q 85  
A 8 R 2 460b-461b  
23 HO *S* *Leu than* ART IV 269d  
31 D CART *Rules* XIV 29b-32 / *D* *is* *ur* *ie*  
RT IV 52d 53a / *M* *d* *t* *ions* v 93 d VI  
96b d / *Object s* and *Repl s* 216d 217c  
228c 229a  
35 LOKE *Human Understand g* BK II CH XIII  
SECT 5-6 149b d  
42 KANT *Pu e Rea on* 25a b  
53 JAMES *Psychology* 876b 878a
- 3a St ght lines their length and the re  
l tions angle : perpendiculars parallels
- 8 ARISTOTLE *Pro A alyt* BK I CH 24 [41<sup>b</sup>  
14 2] 58c CH 35 66c d BK CH 16 [64<sup>b</sup> 28  
65 9] 85c d / *P* *steno* *Anal* *yt* BK I CH 4  
[73 34-38] 100b CH 5 101b 102b passim CH 24  
[85<sup>b</sup> 37-86 3] 117b-c / *Topics* K VI CH 11  
[48<sup>b</sup> 23-33] 203a / *H* *al* *ent* BK I CH 2 [268<sup>b</sup> 15  
20] 359d / *Met physics* BK IX CH 9 [1051<sup>a</sup> 3-  
6] 577c  
9 ARISTOTLE *Gal of An m* l CH 9 [708<sup>b</sup> 34-  
709<sup>a</sup> 1] 247b  
11 EUCLID *Eleme ts* BK I DEFINITION 4 8  
12 1a 23 2a POSTULAT 1 2 4-5 2 RO  
34 2b 21b K II RO 1 38a 39 K IV  
PRO 10 73b 74b BK VI INITIONS 3  
99 PRO 2 7 100b 112 P O 30 123 b  
P O 32 124b 125 K X 191a 300b p ssim  
XI 1 11 ON 1 301b ROP 1 23 302b  
319 ROP 26 321b 323 RO 35 332b-334b  
K XII RO 5<sup>a</sup> 2 372b 381  
11 ARISTOTLE *Spher a d Cylinder* K I  
DEFINITIONS 1-2 404 A ST OPTION 1 404b  
PROP 2 405 b / *Spirals* = O 1 484b  
16 PR *y Alm ge* t K I 26a 28b  
16 CO NICU *Revolus* *f* *u* *l* *H* *a* *l* *y*  
*Sphere* BK I 543a 545b K I 569b-570  
19 AQUINA *Summa Theologiae* PART I Q 85  
A 8 R 2 460b-461b



(3) *The magnitudes of geometry the relations of dimensionality 3a Straight lines their lengths and their relations angles, perpendiculars parallel*

28 GALILEO *Two New Sciences* FIRST DAY 149d 150d THIRD DAY 233d

34 NEWTON *Principles* BK I LEMMA 16 53b 54a LEMMA 3 67a LEMMA 6 71a 72a BK III LEMMA 7 339b

42 KANT *Pure Reason* 110a 212c d

52 DOSTOEVSKY *Brothers Karamazov* BK V 121a b

53 JENSEN *Psychology* 876b-877a

3b Curved lines their kinds number and degree

8 ARISTOTLE *Havens* BK I CH 2 [268<sup>b</sup> 5 20] 359d

11 EUCLID *Elements* BK I DEFINITIONS 2 3 1a

11 ARCHIMEDE *Sphere and Cylinder* K I DEFINITIONS 1 2 404a ASUMTION 2 404b / *Spirals* DEFINITIONS-PROP 28 490 501a

28 GALILEO *Two New Sciences* SECOND DAY 195b-c

31 DESCARTES *Geometry* BK I III 298b 332b K III 341a 353b

34 NEWTON *Principle* BK LEMMA 1 29b 30b LEMMA 5 PRO 29 and SCHOL 50a 75b LEMMA 28 76b 78 PRO 48-5 102b 105a BK LEMMA 3 189b 190 BK II LEMMA 5 338b 339a

3b(1) Circles

8 ARISTOTLE *Categories* CH 7 [7<sup>b</sup> 29-33] 12c d / *Prior Analytics* BK I CH 4 [41<sup>a</sup> 14 21] 58c K II CH 2 [69 30-34] 91a b / *Posterior Analytics* BK II CH I [94<sup>a</sup> 20-35] 128d 129a / *Metaphysics* BK II CH 4 [128<sup>b</sup> 13 28<sup>a</sup> 3] 378b- / *Metaphysics* BK II CH 3 [373<sup>b</sup> 6 17] 477 d CH 5 480a-481 / *Metaphysics* BK V CH 9 [1 21 7 29] 577c

11 EUCLID *Elements* K I DEFINITIONS 15 18 1b K I IV 41 80b BK VI PROP 33 125a 126 BK VI PROP 2 339a 340b PRO 16 362b 363a

11 ARCHIMEDE *Sphere and Cylinder* BK I ASSUMPTION 5 404b PRO 1 405a PROP 3-6 405b-408a / *Measurement of a Circle* 447a 451b / *Spirals* PROP 3-9 485a-488a / *Book of Lemmas* 561 568b

11 APOLLONIUS *Conics* K I PROP 4-5 606b 608b PRO 9 613b-614b PRO 17 19 626a 627b PRO 21 628-629a PRO 32 638a 640a PRO 34 641-643a PROP 36-41 643b 653b PROP 43 654b 655b PROP 45 657 658b PROP 47 659b 660b PRO 50 663-666b BK II PROP 6-7 686b 687 PRO 26-30 700b-702b PROP 44 710b 711a PRO 49-51 714b 726a BK III PROP 1 731a 735b PRO 16-17 747b 750a PROP 27 761b-762b PROP 37 38

772b 775b PROP 42 780b 782a PROP 45-7

783b 790a PROP 53-54 792b-796a

16 PROBLEMS *Almagest* BK I 14a 21a 26a 28b BK VI 208a b

18 COPERNICUS *Revolutions of the Heavenly Spheres* BK I 532b 538a 545b-556b

28 GALILEO *Two New Sciences* FIRST DAY 149d 150d 155b 156d

31 DESCARTES *Geometry* BK II 313b-314a

34 NEWTON *Principles* BK I LEMMA 29 138a b

3b(2) Ellipses

11 ARCHIMEDE *Conoids and Spheroids* PROP 4-9 459a-464a PROP II 14 464b-467a

11 APOLLONIUS *Conics* BK I PROP 13 618a 620a PROP 15 621b 624a SECOND DEFINITIONS 9 II 626a PROP 17 19 626a 637b PROP 21 628a 629a PROP 23 630a BK II PROP 2 631a BK II PROP 30 636a 637 PROP 32 638a-640a PROP 34 641a 643a PROP 35-41 643b-653b PROP 43 654b-655b PROP 45 657a-658b PROP 47 659b 660b PROP 50 663-666b PROP 56-58 675b 679b BK II PROP 6-7 686b 687a PROP 26-30 700b-702b PROP 41 45 710b 711b PROP 47-50 712b-723a BK II PROP 52 K III PROP 3 726b 735b BK III PROP 16-17 747b-750a PRO 27 761b 762b PROP 37-38 772b 775b PROP 42 780b 782a PROP 45-50 783b-790a PROP 52-54 791b-796a

16 KEPLER *Epitome* BK 975 984b part

31 DESCARTES *Geometry* BK II 308b-313b

34 NEWTON *Principles* BK I LEMMA 12 41a LEMMA 15 PROP 29 and SCHOL 50a 75b PROP 15-PROP 18 50a 51a LEMMA 28 COROLLARY-PROP 31 and SCHOL 78a-81a

34 HUYGENS *Light* CH V 604b 606b

3b(3) Parabolas

11 ARCHIMEDE *Conoid and Spheroids* PROP 4 458b-459a PROP II 14 464b-465a / *Quadrature of the Parabola* PROP 1-5 528a 529b PROP 14 531b 536a PROP 24 537a b / *Method* PROP 1 571a 572b

11 APOLLONIUS *Conics* BK I PROP II 615a 616a PROP 17 2 626a 628a PROP 22 629a-630a PROP 24 631a PROP 26-27 631b 634a PROP 32 33 638 640b PROP 35 643 b PROP 43 653b 654b PRO 46 659 BK II PROP 49 661b 663a PROP 52-53 668a 670b BK II PROP 6 686a PROP 7 687a PROP 24 699b-700a PROP 28 30 701b 702b PROP 44 710b 711a PROP 46 711b 712a PROP 48-51 713 726a BK III PROP 1 731a 735b PROP 16-17 747b-750a PROP 37-38 772b 775b PROP 41 778b-780b PROP 54 793b 796a

28 GALILEO *Two New Sciences* SECOND DAY 193a 195c FOURTH DAY 238d 239d

31 DESCARTES *Geometry* BK I 308b-310b

34 NEWTON *Principles* BK I LEMMA 13 14 45a LEMMA 15 PROP 29 2 d SCHOL 50a 75b PROP 10 19 51 PRO 30 76 b

## 3b(4) Hype bolas

- 11 ARISTOTLE *Co oids and Spheroids* PROP II 464b-465a
- 11 APOLLONIUS *C ics* BK I D OF 12 616a 618a PROP 14 620a 621b PROP 16-9 624b 627b PROP 1 2 628a 630a PROP 24 631 PROP 26 631b 632b P OF 28 32 634 640a PRO 34 641a 643a PROP 36-41 643b 653b PROP 43-45 654b 658b PROP 47 48 659b 661a PROP 50-5 663a 668a PROP 54-55 670b 675a PROP 59-60 679b-681b BK II PROP 1-5 682a 686 PROP 7 23 687 699b PROP 5 700a E OF 28-45 701b-711b PROP 4-5 712b 726a BK II PRO 1 26 731a 761 PROP 28-40 763a 778b PRO 42-5 780b 791b PROP 53-56 792b-798b
- 31 DESCARTES *G ometry* BK II 306b 307a 308b-312b
- 34 NEWTON *Princ pl* BA I L IMA 12 41a LEMA 15 PRO 29 and SC OL 50a 75b esp L IMA 15 PRO 18 50a 51a

## 3 The relations of straght and curved lines tangents secant asymptote

- 8 ARISTOTLE *Pr or A lytics* BA CH 24 [41<sup>b</sup> 14 2] III
- 11 EUCLID *Element* BA I DEFINITION 24-5 41a 7 141a b PRO 2 42b-44 PROP 7 8 44b-47 PR I 48b-49a PROP 4 4 III 50a esp PROP 16-17 51b 53a PRO 26-29 57b 59a BK II I PROP 3 K IV RO 10 59b 80b BK VI RO 33 125a 126a III XII P OF 1 338a 339 PROP 6 362b 363a BA X I RO 9-12 375b 381a
- 11 AHM DE *Sphere and Cylinder* BK I ASUMPTION I 5 404b P OF 405a R P 3-4 405b 406b RO 2 22 418-419a / *Measurement of a Circle* PRO 3 448b-451b / *Spirals* RO 3-9 485a-488 PROP 1 13 490b RO 16-20 491b 495b / *Quadrat e f th Parabola* PRO -5 528a 529b PRO 18 19 535a / *B ok f Lem s* RO 1 3 561a 562 PROP 6 563b 564a PRO 8-3 564b 567a RO 5 567b 568b
- 11 APOLLONIUS *C ics* BK I RSTDEFINITIONS 4-8 604a b PRO 5-51 621b 668a BK II 682a 730b esp PR 14 5 691b 692b PROP 17 693b-694a A PRO 1-44 731 783b V O 53-56 792b-798b
- 16 P O ERY *Alm g t* K 14a 24b 26a 28b
- 16 COERNICUS *Revolur of the Heavenly Spher s* BK I 532b-542b
- 10 K LER *Eptom* BK V 973a 975a
- 28 G LIL O *Two Nw S ienc* FIRST D V 149d 150d THIRD DAY 229d 230a 233b 234b FOUR TH DAY 239b d
- 31 DE CARTES *G ometry* BA I I 298b 331b
- 34 NEWTON *Principl s* K I L IMA 5-7 27a b IMA 1 29b-30b BK 15 PROP 9 and SCH L 50 75b L A 9 138a b
- 35 HUM *Huma U derstand g* ECT XII D V 124 506a-c esp 506c

## 3d Surfaces

- 8 ARISTOTLE *Heavens* BK II CH 4 [286<sup>b</sup> 13-287<sup>a</sup>] 378b II
- 11 EUCLID *Elements* BK I D FINITIONS 5 7 1 15 2 1b 2a POSTULATES 3 2a PROP 1 2b 3a PROP 22 13b-14a PROP 46 27b 28a K VI PROP 18 112a b BK VI DEFINITION 2 301
- 11 A CHMEDES *Sphere and Cylinder* K I DEFINITIONS 3 4 404a
- 11 A O LONIUS *C nica* BK I PIR T DEFINITIONS 1 604a
- 11 N COMACHUS *Arithmetic* K II 832 833b
- 31 DESCARTES *Object ons d Repl es* 228c 229a

## 3d(1) The measurement and transformation of areas

- 7 PLATO *Meno* 180c 182c
- 8 ARISTOTLE *Cate or s* CH 7 [1<sup>b</sup> 9 33] 1 c d CH 14 [15<sup>a</sup> 29 3] 21a / *Prior Analytics* BK I CH 25 [69 3 34] 91a III / *Soph istical Refutations* C I II [17<sup>b</sup> 12 18] 236b [17<sup>b</sup> 34 172<sup>a</sup>] 236d / *Physics* BK I C 2 [185 14-17] 259d 260 / *Metaphysics* K III 2 [996<sup>b</sup> 18 2] 515b / *S ul* K CH 2 [4 3 13-9] 643b
- 11 EUCLID *Elements* BK PRO 4 4a b PROP 8 6b 7a PRO 26 16 17b RO 35 45 21b 27b BK PROP 47 K II RO 14 28a 40b BK III DEFINITION 1 41a II 41b BK VI D FINITIONS I 99a PROP 1 99a 100 PROP 14-17 109a 112 RO 9-9 112b 123a RO 3 123b 124a BK X PROP 9 197a 198b PROP 3 LEMMA OF 14 200b 202a PROP 16 LEMMA 203 b RO 19 206a P OF 1 and LEMMA 206b 207b PR 4-6 209b 211b P O 3 L IMA 217b 218a RO 53 L II 235a b RO 59 L A 242 b K VI P O 1 2 338a 340b K XIII RO -5 369a 373
- 11 ARISTOTLE *Sphere and Cylinder* K I ASUMPTION 3-4 404b II II 5 16 406b 414b PROP 3 25 419a 420b PRO 8 3 422-423a PR P 32-33 423b 425b PROP 34 CORO - RO 37 427a 428a PRO 39-43 429a 432b BK II OF 3 437 b PROP 6 441b 442b RO 8-9 443b-446a / *Measurement of a Circle* RO 447a-448a / *C d s d Sphero d* RO -6 458-460b / *Spr l* PRO 1 28 495b-501a / *Quadrat e f th P bola* RO 14 7 531b 535a OF -0-24 535b 537b / *B ok f Lemm* PRO 4-5 562b 563b PR 7 564b RO 14 567a b / *M th d* PRO 1 571a 572b
- 16 K LER *Eptom* BK V 979b 984b p sum
- 28 G L O *Two Nw S ien* FIRST D V 153d 154 155b-156d COND DAY 193a 194d FOURTH D V 239d 240a
- 34 NEWTON *Principle* K L IMA 2 4 25 26b LEMMA 8-9 27b-28b MM 64 65b PRO 30-3 nd HO 76 81 PRO 8 140b-142b
- 53 JAM *Psychology* 673b

## (3d Surfaces)

## 3d(2) The relations of surfaces to lines and solids

- 8 ARISTOTLE *Metaphysics* BK I CH 9 [992 10-24] 510b-c
- 11 EUCLID *Elements* BK VI DEFINITIONS 2-8  
301a II PROP 1-8 302b 308a PROP II 19  
309a 314b PROP 24 319b 320b PROP 28  
323b 324a PROP 38 336a 337a
- 11 ARCH EDES *Conoids and Spheroids* DEFINITIONS 455a II PROP 7 9 461a 464a PRO II 18  
464b-468b / *Floats of Bodies* BK I PROP I  
538a II
- 11 APOLLONIUS *Conics* BK I FIRST DEFINITIONS  
1 604 PROP I 14 604b 621b PROP 52 58  
668a 679b
- 28 GALILEO *Two New Sciences* FIRST DAY  
142b 143d

## 3e Solids regular and irregular

- 11 EUCLID *Elements* BK V DEFINITIONS I  
301a 12 28 301b 302b PROP 27 323a II BK  
XIII PROP 13 18 381a 396a
- 11 ARCHIMEDES *Conoids and Spheroids* 452a  
455a
- 11 APOLLONIUS *Conics* BK I FIRST DEFINITIONS  
2 3 604a
- 11 NICOMACHUS *Arithmetic* BK II 832c d 836b c
- 16 KE PLER *Epitome* BK IV 863b 868b / *Harmonies of the World* 1011a 1012a

## 3 (1) The determination of volume

- 11 EUCLID *Elements* BK VI DEFINITIONS 9 10  
301b PROP 25 320b 321b PROP 28-34 323b  
332b PROP 36 37 334b 336a PROP 39 337a II  
BK XII PROP 3 5 341a 362b PROP 18 367a  
368b
- 11 ARCHIMEDES *Sphere and Cylinder* BK I  
LEMMA PROP 20 414b-418a PRO 26 28  
421a-422b PROP 31 32 423b-424b PROP 34  
and COROL 425b 427a PROP 38 428b-429a  
PRO 41 431a b PROP 44 433a b BK II PROP  
1 2 434b-437a PROP 4-5 437b-441b PROP 7-9  
442b-446a / *Conoids and Spheroids* PROP 10  
464a PROP 18 32 468b-481b / *Method* PROP  
2 4 572b-576b PROP 7 579a 580b PROP 10-15  
583 592a
- 28 GALILEO *Two New Sciences* FIRST DAY  
154c 155b SECOND DAY 196b c

## 3e(2) The relations of solids, inscribed and circumscribed spheres solids of revolution

- 8 ARISTOTLE *Metaphysics* BK II CH 4 [87<sup>2</sup> 11]  
378c
- 11 EUCLID *Elements* BK XI DEFINITIONS 14  
301b 18 302a BK XII PROP 3 4 341a 344b  
PROP 347b 348b PROP 17 363a 367a BK  
XIII PROP 13 17 381a 393a
- 11 ARCH EDES *Sphere and Cylinder* BK I  
DEFINITIONS 5-6 404a PROP 23 32 419a

- 424b PROP 35 41 427a-431b / *Conoids and Spheroids* 452a-455a PROP 19-20 468b-469b
- 33 PASCAL *Equilibrium of Liquids* 395a b
- 34 HUYGENS *Light* CH V 603b 604b

## 4 Discrete quantities number and numbers

- 7 PLATO *Parmenides* 496a d
- 8 ARISTOTLE *Categories* CH 6 [4<sup>2</sup> 33] 9<sup>2</sup> b  
[5<sup>2</sup> 24-36] 9c d / *Posterior Analytics* BK I CH:  
[7<sup>2</sup> 22 24] 98d / *Physics* BK III CH 7 [20<sup>2</sup> 11]  
285d 286a BK IV CH II [19<sup>2</sup> 8] 299b  
[220 21 24] 300a CH 12 [220 27 32] 3  
CH 14 [223 21 25] 303a / *Metaphysics* BK  
VIII CH 3 [1043<sup>2</sup> 33] 1044 14] 568b-d 568c  
I [1053 24 31] 579d 580a CH 3 [1054<sup>2</sup> 20 25]  
581a CH 6 [1063<sup>2</sup> 1057 7] 584b BK XIC  
CH 6-9 611d 618c BK XIV 619b d 616d
- 11 EUCLID *Elements* BK VII DEFINITIONS 1  
127a
- 11 ARCH EDES *Sand Reckoner* 520a 5 6b
- 11 NICOMACHUS *Arithmetic* BK I 811d 812b  
813d 814b
- 17 PLOTINUS *Fifth Ennead* TR V CH 4<sup>5</sup>  
230b 231a / *Sixth Ennead* TR I CH 4<sup>5</sup>  
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- 20 AQUINAS *Summa Theologiae* PART II Q  
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- 4a The kinds of numbers odd-even square-triangular prime composite
- 7 PLATO *Euthyphro* 196d 197a / *Parmenides* 496a-d  
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- 33 PASCAL *Arithmetical Triangle* 455a-456a  
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- 7 PLATO *Gorgias* 254a-c / *Tiætetus* 515b-c  
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- 11 EUCLID *Elements* BK V D DEFINITIONS 5 81a  
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- 7 PLATO *Timaeus* 456a-458a
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- 53 ARISTOTLE *Psychology* 99a 548b 552a esp  
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(5) *Physical quantities 5b Time the number of motion*

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- 42 KANT *Pure Reason* 23a 24a 26b 33d esp 27a 72c 76c 130b 133c
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5c The quantity of motion momentum velocity acceleration

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5d Mass its relation to weight

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5e Force its measure and the measure of its effect

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- 50 MARX *Capital* I 20b 44a
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# 6a Commensurable and incommensurable magnitude

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- 11 ARCHIMEDES *Equilibrium of Planes* BK I  
PRO 6-7 503b 504b
- 16 KEPLER *Harmless of the World* 1012 b  
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# 6b Mathematical procedures in measurement superposition congruence ratio and proportion, parameters and coordinates

- 11 EUCLID *Elements* BK PROLOGUE 4 COM-  
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448b-451b / *Equilibrium of Planes* K I  
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- 16 PTOLEMY *Almagest* BK 14a 24b 26a 28b
- 16 COERNICUS *Revolutions of the Heavenly  
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- 28 GALILEO *Trial and Error* COND DAY  
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- 31 DESCARTES *Geometry* K II 332b-341b
- 34 NEWTON *Principles* K I LMA I 25  
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# 6c Physical procedures in measurement experiment and observation clocks rules balances

- 5 ARISTOTLE *Birds* [992 1020] 555 b
- 6 HERODOTUS *History* BK II 49d 50a 70b  
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421b c BK V 487d
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- 30 BACON *Novum Organum* K I LMA II 09  
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- 33 PASCAL *Great Experiment* 382a 389b
- 34 NEWTON *Principles* DEFINITION 8 HOL, 9b-  
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- 53 JAMES *Psychology* 56 57b 348 355b  
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# 7 Infinite quantity the actual infinite and the potentially infinite quantity the mathematical and physical infinite of the great and the small

- 7 PLATO *Parmenides* 495d-497b
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- 31 SPINOZA *Ethics* PART I PROP 15 SCHOL  
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- 33 PASCAL *Pensées* 121 195a 231 233 213b  
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- 34 NEWTON *Principles* BK I LEMMA 1 II and  
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- 42 KANT *Pure Reason* 24d 26d 130b 133c  
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- Other considerations of the relation between quantity and quality see MECHANICS 4b QUALITY 3a
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- Other discussions of such physical quantities as space time motion mass and force see ASTRONOMY 7 CHANGE 5a-5b MECHANICS 5d-5e(2) 6b-6c SPACE 3d TIME 4
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- Other discussions of infinite quantity see INFINITY 1b 3a-3c SPACE 3a TIME 2b

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups:

I Works by authors represented in this collection

II Works by authors not represented in this collection

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## Chapter 77 REASONING

### INTRODUCTION

IN the tradition of western thought certain verbal expressions have become shorthand for the fundamental ideas in the discussion of which they happen to be so often repeated. This may be due to the influence of the text books used in the schools which copy one from another and hand down an easily recited jargon from generation to generation. In most cases the great books themselves are probably the original source though they have usually suffered over simplification or distortion when their insights are thus transmitted.

Featherless biped and rational animal are for example stock phrases to illustrate the idea that a definition consists of genus and differentia—the class to which man in this instance belongs and the attribute which differentiates him from other members of this class. Statements such as the whole is greater than the part or two plus two equals four similarly serve to represent axioms or at least statements which whether or not they can be proved are usually accepted as true without proof. In the field of reasoning the familiar verbal landmark is *All men are mortal. Socrates is a man. therefore Socrates is mortal.* Even those who have never heard of syllogisms or who are thoroughly innocent of the age-old controversies about the theory of the syllogism and the difference between deduction and induction might offer this sequence of statements if pressed to say what reasoning is. They tried to answer by giving an example.

The example shopworn though it is and far from being the perfect paradigm does convey certain insights into the nature of reasoning which are generally undisputed.

The word *therefore* which connects the third statement with the first two signifies a relationship which is sometimes described in terms of cause and effect as by Aristotle and

sometimes in terms of antecedent and consequent as by Hobbes. The premises (i.e. the statements which precede the *therefore*) cause the conclusion. It is said *We know that Socrates is mortal because we know that Socrates is a man and that all men are mortal.* The premises are the cause in the sense of the reason why the conclusion may be regarded as true.

The conclusion is also said to *follow from* the premises or the premises are said to *imply* or *yield* the conclusion. If the premises are true then the truth of the conclusion can be inferred or proved. The relationship between the premises and the conclusion seems to be the same whether the act of reasoning is called *proof* or *inference*. The distinction in meaning between these two words seems to be one of direction. We speak of *proving* a conclusion when we look toward the premises as the foundation for its truth. We speak of *inferring* a conclusion when we look toward it as something which can be drawn from the premises.

The words *if* and *then* indicate that reasoning is a motion of the mind from one statement to another. Sometimes the inference is immediate as when we argue that if all men are mortal then some mortals are men. Here only two propositions are involved one of which is simply the converse of the other. Those who deny that immediate inference is truly inference (because a proposition and its converse are merely two ways of stating the same fact) insist that implicitly or explicitly reasoning always involves at least three statements. In any case a single statement like *Socrates is a man* or even a pair of statements connected by *and* rather than *if then*—e.g. *Socrates is a man and Socrates is mortal*—does not express what is commonly recognized as reasoning. The motion of reasoning does however appear in this sequence of statements. If *Socrates is a*

man then Socrates is mortal even though it omits a statement that may be necessary to the validity of the reasoning namely All men are mortal

Thus the familiar grammatical distinctions of word (or phrase) sentence and paragraph do not seem to provide a perfect parallel for the distinctions which the logicians make between terms propositions and syllogisms But this much is clear Just as a single word or phrase like man or rational animal can never express a proposition but only a term so a simple sentence expresses only a proposition and never a syllogism and a compound sentence one made up of a number of sentences expresses a syllogism only if its verbal construction somehow indicates that they form a sequence in which one follows from the others or if they are related in such a way that the truth of one is caused by the truth of the others

THE CHAPTER ON IDEA (and perhaps also the chapter on DEFINITION) deals with that content or act of the mind—whether a percept or a concept an image or an abstraction—which is verbally expressed in words or phrases and of which the term is the local representative The chapter on JUDGMENT (and perhaps also the chapter on PRINCIPLE) deals with the mental act or content that requires a sentence for its expression and is logically represented by the proposition Here we are concerned with mental activity which involves not only two or more ideas but also two or more judgments so connected that the mind passes from one to another

Whether the logical structure that Aristotle calls a syllogism represents all forms of the mental activity called reasoning is one of the great traditional issues Hume suggests for example that animals reason without making use of syllogisms and Descartes and Locke seem to hold that the highest forms of thinking such as occur in mathematics or philosophy cannot be reduced to syllogisms except perhaps by a *tour de force*

We face a different sort of problem when we compare reasoning with other acts of the mind—with conception (or the having of ideas) and with judgment (or the connecting of ideas with one another in the manner which medieval writers call composition and division) No

one denies that reasoning is thinking nor does anyone deny that there are forms of thinking which are not reasoning since conceiving and judging are generally regarded as kinds of thinking or modes of thought Reasoning is merely that mode of thought which is a *process*—the going step by step from one statement to another

The problem which arises from the comparison of reasoning with other modes of thought turns on the question whether the mind can learn anything without having to think rationally Can certain things be known by insight or instinct by induction or intuition rather than by reasoning? Are there truths which cannot be known by reasoning at all but only by some other mode of thought? These questions in turn raise the problem of the priority or superiority of such modes of thought as do not consist in reasoning The theory discussed in the chapter on INDUCTION—that induction is prior to reasoning because intuitive generalization from experience must provide the starting points for demonstration—indicates one solution of the problem Our present concern however goes beyond the issue concerning induction and deduction to the most general contrast between the intuitive and the rational

FOR PLOTINUS ANY FORM of thinking—not merely reasoning—signifies a deficiency or weakness In the scale of intellectual beings man occupies the lowest rank because he reasons But even the pure intelligences which know intuitively rank below the One because even the simplest act of thought involves some duality of subject and object The One according to Plotinus transcends thought even as it transcends being The super essential he says is the supra cogitative The One has no need for intellect on being always self-sufficient

Other writers do not go as far as this Christian theologians do however contrast the human mind with the angelic intellect and the mind of God by saying that the latter are supra rational i.e. above the need to reason They do not like Plotinus hold that the transcendent being transcends thought itself—certainly not insofar as they discuss the divine ideas But the kind of thinking which is not a instantaneous act of vision or an immediate intuition involves

the mind in a process of thought somehow akin to change or motion and thus the theologians hold cannot take place in any immutable being—the angels or God

The human intellect according to Aquinas gradually comes to know the truth by a kind of movement and discursive intellectual operation by advancing from one thing known to another. But if from the knowledge of a known principle [men] were straightway to perceive as known all its consequent conclusions then there would be no place for discursiveness in the human intellect. Such is the condition of the angels because in the truths which they know naturally they at once behold all things whatsoever that can be known in them.

That says Aquinas is why the angels are called *intellectual* beings and men are called *rational*. Recourse to reasoning on the part of men betrays the feebleness of their intellectual light. For if they possessed the fullness of intellectual light like the angels then in the first grasping of principles they would at once comprehend all that they implied by perceiving at once whatever could be reasoned out of them.

The type of intuitive apprehension which the angels enjoy is even more perfectly exemplified in God's knowledge. In the divine knowledge according to Aquinas there is no discursiveness—no succession neither the turning from one thought to another nor the advance from the known to the unknown by reasoning from principles to conclusion. The divine knowledge Aquinas explains is a single all embracing act of vision in which God sees all things in one thing alone which is Himself and therefore sees all things together and not successively. Apart from participation in the vision of God through supernatural light all human thinking on the natural plane is discursive. Even the conception and the judgment are discursive in the sense that the one involves an act of abstraction or definition and the other involves a composition or division of concepts. But though it is always discursive human thinking is not according to Aquinas always involved in the *motion* of reasoning that is the transition from one thought to another. Reasoning he says is compared to understanding—*i.e.*, the act of judgment by which we

affirm or deny a single proposition—*i.e.* movement is to rest or acquisition to possession.

DESCARTES USES THE word intuition to name the way in which we know certain truths immediately and with certitude. He distinguishes intuition from deduction by the fact that into the conception of the latter there enters a certain movement or succession into that of the former there does not. The first principles are given by intuition alone while on the contrary the remote conclusions are furnished only by deduction. But while deduction which Descartes says he understands to be all necessary inference from other facts that are known with certainty supplements intuition it is never at any stage of the reasoning process independent of intuition.

Not only does intuition according to Descartes supply the first principles or ultimate premises of reasoning but it also certifies each step in the process. He asks us to consider this: consequence 2 and 2 amount to the same as 3 and 1. Now we need to see intuitively not only that 2 and 2 make 4 and that likewise 3 and 1 make 4 but further that the third of the above statements is a necessary conclusion from these two.

If in addition to knowing the premises by intuition the drawing of a conclusion from them is as Descartes says itself effected by intuition—if the act of inference rests on the intuition that the conclusion follows logically from the premises—in what way does deduction or reasoning supplement intuition? To this question Descartes replies that though the mind has a clear vision of each step in the process, it cannot comprehend in one intuition all the connections involved in a long chain of reasoning. Only by taking the steps one after another can we know that the last link in a long chain is connected with the first even though we do not take in by means of one and the same act of vision all the intermediate links on which that connection depends but only remember that we have taken them successively under review.

Like Descartes Locke contrasts intuition and reasoning or intuitive and demonstrative knowledge. Sometimes the mind perceives the agreement or disagreement of two ideas immediately by themselves without the interven-

tion of any other and thus says Locke we may call intuitive knowledge When the mind cannot so bring its ideas together as by their immediate comparison to perceive their agreement or disagreement it is fain by the intervention of other ideas to discover the agreement or disagreement which it searcheth and this is that which we call reasoning

Again like Descartes Locke asks What need is there of reason? It is necessary he thinks both for the enlargement of our knowledge and regulating our assent Sense and intuition reach but very little of the way The greatest part of our knowledge depends upon deductions and intermediate ideas and in those cases where we are fain to substitute assent instead of knowledge and take propositions for true without being certain they are so we have need to find out examine and compare the grounds of their probability But though reasoning enlarges our knowledge beyond what can be known intuitively reasoning produces certain knowledge according to Locke only if every step in reasoning has intuitive certainty

To make anything a demonstration it is necessary to perceive the immediate agreement of the intervening ideas whereby the agreement or disagreement of the two ideas under examination (whereof the one is always the first and the other the last in the account) is found

On this view of reasoning nothing can be known demonstratively or by proof unless some things can be known intuitively i.e. without inference or proof Locke and Descartes seem to agree with Aquinas and Aristotle that demonstration depends upon indemonstrable truths whether these are called axioms immediate propositions first principles or self evident maxims Locke and Descartes on the one hand stress the point that in reasoning the logical connection between premises and conclusion is also undemonstrable and must be intuitively perceived Aquinas and Aristotle on the other repeatedly observe that the truth of the conclusion is implicitly contained in the truth of the premises so that the advance which reasoning appears to make from the known to the unknown consists in coming to know actually what is already potentially known Nevertheless they unlike Descartes and Locke maintain

that reasoning extends knowledge even though it may not be the method of initial discovery

A somewhat contrary view seems to be taken by Hume If the objects under consideration are matters of fact rather than the relations between our own ideas the kind of reasoning which goes from premises to conclusion avails not at all The beliefs we hold about such matters according to Hume result from mental operations which are a species of natural instinct which no reasoning or process of thought is able either to produce or to prevent What he calls experimental reasoning or reasoning concerning matters of fact is founded he says on a species of Analogy which leads us to expect from any cause the same events which we have observed to result from similar causes

Not only men but also animals reason in this way But Hume thinks it is impossible that this inference of the animal can be founded on any process of argument or reasoning by which he concludes that like events must follow like objects The experimental reasoning itself which we possess in common with beasts and on which the whole conduct of life depends is nothing but a species of instinct or mechanical power that acts in us unknown to ourselves and in its chief operations is not directed by any such relations or comparisons of ideas as are the proper objects of our intellectual faculties

THE FOREGOING considerations indicate how diverse theories of the role of reasoning arise from diverse theories of the nature and kinds of knowledge in animals men angels and God According as various distinctions are made between human knowledge and opinion or between the way in which different objects can be known or between speculative and practical interests so too different formulations are given of the nature of reasoning

Aristotle's distinction for example between scientific and dialectical or rhetorical reasoning turns upon his understanding of the difference between the objects of certain knowledge and the objects of probable opinion This difference he says makes it equally foolish to attempt probable reasoning from a mathematician and to demand from a rhetorician scientific proofs

Hume's distinction between *a priori* and *a posteriori* reasoning—i.e. between reasoning from principles and reasoning from experience—depends upon his understanding of what matters must be submitted to experience and of the manner in which experience generates belief. The distinction which Aquinas makes between demonstrations *propter quid* and demonstrations *quia*—i.e. between proving *what* something is from its causes and proving *that* it is from its effects—depends upon his understanding of the difference between essence and existence as objects of rational knowledge.

To take an example in the opposite vein, Locke's theory that the same type of demonstration is possible in both mathematics and the moral sciences, seems to rest upon his view that all knowledge consists in the comparison of ideas. In contrast to this other theories, which hold that the mode of reasoning differs in different disciplines (especially in mathematics and morals or in metaphysics and the natural sciences) seem to arise from the contrary view that at once whatever different fields of inquiry the objects of knowledge are different.

The type of intuitive apprehension—modes of reasoning the angels enjoy—is even more perfectly exemplified in God's knowledge. In the divine knowledge according to Aquinas, there is no discursiveness—no succession neither the turning from one thought to another nor the advance from the known to the unknown by reasoning from principles to conclusion. The divine knowledge Aquinas explains is a single all-embracing act of vision in which God sees all things in one thing alone which is Himself, and therefore sees all things together and not successively. Apart from participation in the vision of God through supernatural light all human thinking on the natural plane is discursive. Even the conception and the judgment are discursive in the sense that the one involves an act of abstraction or definition and the other involves a composition or definition of concepts

and, in natural science as well, consists in going from effects to causes. The method of synthesis goes from one effect to another. Newton relates the difference between analysis and synthesis to the difference between inductive and deductive reasoning. This of distinguishing between inductive and deductive reasoning in terms of going from effects to causes or from causes to effects also seem to be related to the distinction Aquinas makes between demonstrations (i.e. reasoning which proves only *that* something exists) and demonstration *propter quid* (i.e. reasoning which proves *what* it is—its nature or properties). The proposition God exists is, according to Aquinas, a demonstration *quia* it is also a *posteriori* reasoning from effect to cause. But he does not call it inductive. In one passage he seems to regard induction as a process whereby we can come to know what God is.

From natural things, one does not come by a demonstration to know non-natural things. By induction of reason one may know above nature since the natural has some resemblance to the supernatural.

It is this sense of the word induction that is like that in which Aristotle is as Descartes says itself not like that—if the act of inference is discursive and that the conclusion follows deductively from the premises—in what way does deductive reasoning supplement intuition? To this question Descartes replies that though the intellect has a clear vision of each step in the process it cannot comprehend in one intuition the connections involved in a long chain of reasoning. Only by taking the steps one after another can we know that the last link in a long chain is connected with the first even though we do not take in by means of one and the same vision all the intermediate links on which the connection depends but only remember

eds through an enumeration of all the

ERENT THEORIES of definition also affect place which is assigned to definition in logic. Hobbes for example regards reason as a kind of calculation with names which only depends upon the determination of their meanings. The operations of addition and subtraction when done with words rather than with numbers are he thinks equivalent to conceiving the consequence of the names of all the parts to the name of the whole or from the whole to the name of one part to the name of another part. It is nothing but *reckoning* (i.e. adding and subtracting) of the consequences of general names agreed upon. Aristotle with the theory that definitions state the essential natures of things not just the meaning of words holds that a definition may be the conclusion of a demonstration giving essential nature as well as an indemonstrable principle of essential nature. In the latter case the definition functions as a principle in demonstration.

According to William James reasoning like action is a selective activity of the mind which serves an individual's interest or purpose. Thinking he says is first last and all for the sake of my doing. Reasoning is first for a subjective interest to attain some particular conclusion or to gratify some special utility. It makes no difference whether the process is practical or the curiosity speculative. The process of reasoning will be the same whether the element which provides a solution is a problem in any emergency will be called a problem if the emergency be theoretical or practical if it be practical.

Writers who like Aristotle and Aquinas regard the speculative and the practical as though related orders of thought and action. Some seem to think that practical reasoning is only a syllogistic form. Practical deliberation for them are different from theoretic deliberations. The conclusion of theoretic deliberation is an assertion that something is either good or evil whereas the conclusion of practical deliberation is a judgment that something is good or evil and therefore should either be pursued or avoided. According to Aristotle practical

reasoning of the sort which ends in a decision that leads to action takes the form of a syllogism which has one universal and one particular premise. The major premise is a general rule of conduct the minor premise a particular perception of fact. In the example Aristotle gives of the practical syllogism the major premise is the rule that *everything sweet ought to be tasted* and the minor premise is the perception that *this particular thing is sweet*. These two premises lead to the practical conclusion that *this particular thing ought to be tasted*.

Not all practical reasoning however is concerned with reaching decisions or prompting action in particular cases. The rules of conduct which decisions and actions apply may themselves be the products of practical reasoning. The process by which general rules are derived from even more general principles—the precepts of law or morality—involves according to Aquinas a form of thinking distinctly different from the theoretic or speculative sort. He points out in his *Treatise on Law* that we are able to formulate certain practical rules only by making particular determinations of universal principles not by drawing deductions from them. Something may be derived from the natural law in two ways he writes first as a conclusion from premises secondly by way of determination of certain generalities. The first way is like that by which in the speculative sciences demonstrated conclusions are drawn from the principles while the second mode is likened to that whereby in the arts general forms are particularized as to details. Of these two ways of thinking in the field of law it would appear that it is only the second type which is peculiar to the practical as opposed to the speculative order.

THE DISCUSSION OF reasoning in relation to knowledge opinion and action or in relation to different disciplines and sciences, usually presupposes a theory of the form which reasoning takes regardless of its subject matter or use. This fact is most explicitly attested by the order of three great books concerned with reasoning. Aristotle's *Posterior Analytics* deals with the theory of demonstration in the sciences. His *Topics* deals with the theory of probable argument or reasoning in the sphere of opinion.

Both are preceded by his *Prior Analytics* which treats of the syllogism in terms of its purely formal structure and its various forms. In the later tradition the distinction between the problems of the *Prior* and the *Posterior Analytics* comes to be represented by the separation between what are called formal and material logic.

The formal analysis of reasoning centers on the problem of its cogency. Quite apart from any consideration of the truth of its premises or conclusions, reasoning is true or false according as it is valid or invalid on purely logical grounds. From premises which are in fact false a conclusion which may be either true or false can be truly inferred if the structure of the reasoning is formally valid—that is, if the form of the premises stands in a certain logically prescribed relation to the form of the conclusion. The logical problem then is to prescribe the formal relationships among propositions which permit valid inference from certain propositions to others without regard to the content of the propositions or their truth in fact.

Defining a syllogism as discourse in which certain things being stated, something other than what is stated follows of necessity from their being so, Aristotle says: "I call that a perfect syllogism which needs nothing other than what has been stated to make plain what necessarily follows; a syllogism is imperfect if it needs either one or more propositions which are indeed the necessary consequences of the terms set down but have not been expressly stated as premises." Using the letters S and P to symbolize the subject and predicate of the conclusion and the letter M to symbolize the middle term, the term which appears in the premises but not in the conclusion, Aristotle states the form of a perfect syllogism in the following manner: "All M is P, all S is M, therefore all S is P."

The first of these propositions, the one which contains the predicate of the conclusion, is called the major premise; the second, the one which contains the subject of the conclusion, the minor premise; the subject of the conclusion is called the minor term; the predicate, the major term. Aristotle classifies syllogisms into three figures, or formal types, according to the position of the middle term, either as subject of the major premise and predicate of the minor

in the first figure, or as predicate in both or as subject in both in the second and third figures respectively. Then according to whether the premises are universal propositions or particular (All M is P or Some M is M) and each is either affirmative or negative (All M is P or Some S is not M), he further distinguishes within each figure a number of valid moods or formally correct patterns of inference.

For example, in no figure can a valid mood be constructed with two particular or two negative premises. No conclusion can be drawn from the two particular statements that some poison is liquids and that some liquids are indispensable to life, nor can any conclusion be drawn from the two negative statements that no triangles are parallelograms and no rhomboids are parallelograms. In the first figure, the minor premise can be particular and must be affirmative; the major can be negative and must be universal. In this figure the following combinations of premises—some figures are not rectangular, with all rectangular figures are parallelograms, or all prime numbers are odd, with some odd numbers are squares—yield no conclusions. In the second figure, one premise must be negative. Here it is impossible to draw a valid conclusion from two affirmative premises: No fish swims, that all fish swim and all whales swim. In the third figure, only a particular conclusion can be drawn from a pair of premises both of which are universal. From the proposition that no men are wise and the proposition that all men are mortal, we can conclude only that some mortals are not wise.

From these examples it will be seen that Aristotle's rules of the syllogism are rules concerning the quantity and quality of the premises required in each figure to permit a valid inference, and as in the third figure these rules permit only a particular conclusion to be drawn, so for all figures they determine the character of the conclusion which can be drawn from premises of a certain quantity and quality. If one premise is negative, the conclusion must be negative. If one premise is particular, the conclusion must be particular.

There seems to be one universal principle underlying all these specific rules for the valid moods in different figures.

When one thing is predicated of another Aristotle says all that which is predicable of the predicate will be predicable also of the subject. The negative aspect of this principle is immediately obvious. What cannot be predicated of a predicate cannot be predicated of its subject. In the tradition of formal logic this principle is sometimes stated in terms of the relation of classes rather than in terms of subjects and predicates: if one class is included in a second and that second class is included in a third the first is included in the third and if one class excludes another the classes which it includes are also excluded from that other.

The principle of the syllogism is traditionally called the *dictum de omni et nullo*. The *dictum de omni* which Kant in his *Introduction to Logic* calls the supreme principle of affirmative syllogisms is thus expressed by him: "Whatever is universally affirmed of a concept is also affirmed of everything contained under it." The *dictum de nullo* according to Kant states that "whatever is universally denied of a concept is also denied of everything that is contained under it." Kant appears to think that both these

the syllogism is merely a special case of transitivity as it appears in the relation of implication: for if  $P$  implies  $Q$  and  $Q$  implies  $R$  then  $P$  implies  $R$ .

James recognizes this when he writes that the principle of mediate predication or subsumption is only the axiom of skipped intermediaries applied to a series of successive predications. It expresses the fact that any earlier term in the series stands to any later term in the same relation in which it stands to any intermediate term; in other words that *whatever has an attribute has all the attributes of that attribute* or more briefly still that *whatever is of a kind is of that kind's kind*. Along with the axiom of mediate equality, equals of equals are equal, the rule of mediate predication or subsumption is according to James a special case of the law that skipping intermediary terms leaves relations the same. This AXIOM OF SKIPPED INTERMEDIARIES OR OF TRANSFERRED RELATIONS seems to be on the whole the broadest and deepest law of man's thought.

JAMES ATTEMPT TO STATE A LAW OF THOUGHT OR



Both are preceded by his *Prior Analytics* which treats of the syllogism in terms of its purely formal structure and its various forms. In the later tradition the distinction between the problems of the *Prior* and the *Posterior Analytics* comes to be represented by the separation between what are called formal and material logic.

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sitions in the first figure or as predicate in both or as subject in both in the second and third figure respectively. Then according to whether the premises are universal propositions or particular (All M is P or Some S is M) and each is either affirmative or negative (All M is P or Some S is not M) he further distinguishes within each figure a number of valid moods or formally correct patterns of inference.

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Iliad* BK II [265-283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISION.** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference. Line numbers in brackets are given in certain cases. e.g. *Iliad* BK II [265-283] 12d.

**BIBLE REFERENCES.** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows. e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) *II Esdras* 7 46.

**SYMBOLS.** The abbreviation esp calls the reader's attention to one or more especially relevant parts of a whole reference. p.ssm signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

# 1 Definitions or descriptions of reasoning: the process of thought

7 PLATO *Phaedo* 244c 245c / *Republic* BK VI VII 383d 398c / *Theaetetus* 537d 538a / *Sophist* 570a 577b / *Statesman* 594d 595d / *Seventh Letter* 809c 810d.

8 ARISTOTLE *Pro Analytics* BK I CH I [24<sup>b</sup> 18 22] 39c / *Topica* BK I CH 143 d / *Sophist* c 1 *Refutations* CH I [165 i 3] 227b CH 2 227d 228a.

11 EPICETUS *Discourses* BK I CH 7 112b-113d.

17 PLOTINUS *Enneads* TR IV 1 112 164b.

18 AUGUSTINE *Christian Doctrine* BK II CH 31 651d 652b.

19 AQUINAS *Summa Theologica* PT I Q 14 A 7 81d 82b Q 58 A 3 301d 302d A 4 ANS 302d 303c PT 79 A 8-9 421c-423d A 10 RE 2 3 423d-424d Q 84 A 3 REP 3 443d 444d Q 85 A 5 ANS 457d-458d.

20 AQUINAS *Summa Theologica* ART II I Q 2 A 1 391a 392a Q 8 I REP 2 417a d PART III II 1 A 3 773d 774c.

23 HOBBS *Leviathan* PART I 56d 57 58a-c 60a.

28 HUME *On the Principles of Generalization* 332a 335c.

31 DE CARTES *Rule 1a-40* = part m esp VII 7d 12a x 15d 25a xi 28b 29 32d / *Object* = and *Replyes* 137a.

35 LOCKE *Human Understanding* BK IV CH II SECT 2 13 309d 312b CH XV SECT 1 353a-c CH XVII 371c 380d part m esp SECT 2 3 1d 372b.

38 ROUSSEAU *Inequality* 337d 342c.

42 KANT *Pure Reason* 15d 16c 20a 34c 11b 108a 209d esp 109d 112d 115d 116a 118a-c 119a b 129c 130c 158a 159d 173b 174a 185b c 187a e 193d 194b 199a c 224a 21 a / *Judgement* 551a 552c 570b 572c.

45 LAVOISIER *Elements of Chemistry* PART 1a.

49 DRYDEN *Descent of Man* 292b-293d 295b-300a.

53 JAMES *Psychology* 146a 187a esp 161a 176a 179b 184a 185a 360a 362b 381b-385b 664 693b esp 660b 668 672b 678b 690a b.

54 FREUD *Interpretation of Dreams* 337a 363b 364b esp 364a = 367b-c 377c 379c e 379a c 384c 385c / *Unconscious* 441d-443a / *Ego and Id* 700a 701c esp 701d.

1a Human reasoning compared with the reasoning of animals.

8 ARISTOTLE *Metaphysics* BK I CH I [1025<sup>b</sup> 27] 499b / *Soul* BK II CH 3 [417<sup>b</sup> 17 20] 644d [415<sup>b</sup> 12] 645b / *Memory and Reminiscence* CH 2 [453<sup>b</sup> 5 14] 695b.

9 ARISTOTLE *History of Animals* BK I CH I [488<sup>b</sup> 20-27] 9d / *Ethics* BK VI CH 7 [1147<sup>a</sup> 22].

- 28] 390a b BK VII CH 3 [1147<sup>b</sup>-5] 397d /  
*Polis* s KVI C113 [133 39<sup>b</sup>8] 537a b
- 10 G EN *Natural Faculties* BK I C1 12  
 173 ■
- 12 AU ELIUS *M d i t* BK V S CT 16 271c d  
 BK VI S CT 23 276b BK IX SECT 9 292b d
- 10 AQUINAS *Summa Theologiae* PART I Q 76  
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 5 411d 413d Q 81 A 3 ANS and R P 2 430c  
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- 0 AQUIN S *Summa Theologiae* PART I II Q 50  
 A 3 REP 2 8b 9a
- 13 HO BES *Leviathan* PART I 52b 53a b 53d  
 54a 57d 59b c 63a 64a-c 79b c PART II  
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- 15 MONT NE *Essays* 215a 223b passim esp  
 220b 223b
- 10 BACON *No um Orga um* BK II APH 35  
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- 11 D CARTES *Discourse* PART V 59a 60c /  
*Objections and Replies* 156c d
- 12 MILTON *Paradise Lost* BK VII [449-549] 227a  
 229 BK VIII [359-451] 240a 242a BK IX [549-  
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- 33 PA CAL *Pens* 1 339-344 233a b
- 35 LO KE *Hum Underst ndg* BK II CH VI  
 SE T 1 145d 146a CH XVII S CT 8 221a  
 222a K I CH XVII SECT 1 371 d
- 35 BERA E *Hum Knowled* INTRO SECT  
 1 407b-408a
- 11 HUME *Human Understanding* SECT IX 487b  
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- 36 SWIFT *Gulliver* PART V 151b 152a 159b  
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- 38 ROUSSEAU *In qu lity* 337d 338a 341d 342  
 / *Social Contract* BK I 393b
- 42 KANT *Pur Reas n* 199c 200 / *P f Meta  
 phys al Elements f Ethics* 372 b / *Judgement*  
 602b d [fn ]
- 49 DARWIN *D cent f Man* 292b 297c esp  
 292b 294c 400a ■
- 51 T LSTOY *War d Pa* EPILO U II 689  
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- 11 JAME *Psychology* 665a 666b 676b 677a esp  
 677a 679a 686b esp 679 683a 686a b 873a
- 13 D *Access e causumg contrast d with m  
 m d ate intui on*
- 7 PLAT *Rep bl* K VI 386d 388a / *Sev nth  
 Letter* 809c 810d
- 8 A ISTOTLE *M taphys s* K IX CH 6 [ 48<sup>b</sup>  
 18 34] 574 CH ■ [ 05 -34] 577b c  
 K XI CH 7 [ 072<sup>b</sup>14- 9] 602d 603a CH 9  
 605a d
- 17 PLOTINUS *Fourth En d* TR I CH 18  
 151b R IV II 159a d ■ 164b /  
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- 18 C s s BK IX par 3 25
- 68a-c BK XI par 16 102d 103a / *City of God*  
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 614b d
- 19 AQUINAS *Summa Theologiae* PART I Q 14  
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 421c 422b Q 85 A 5 ANS 457d 458d PART  
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- 11 DANTE *Di vine Comedy* PARADISE [43-45]  
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- 30 BACON *Advancement of Learning* 17b-c /  
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- 31 DESCART *S Rules* III 4a d K 17b 18b VII  
 23b-c / *Objections and Replies* 123 b
- 31 S NOZA *Ethics* RT II PROP 4 SCHOL 2  
 383a b P RT V PROP 28 459b
- 32 MILTON *Paradise Lost* BK V [469-505] 185b  
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- 33 PASCAL *Pensées* 1-5 171a 173 277-288  
 222b 224b
- 35 LOCKE *Human Understanding* K I CH III  
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 309b CH X ECT 2 3 349a-c CH XVII SECT  
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- 36 STERNE *Tristram Shandy* 318b 319a
- 42 KANT *Pure Reason* 33a d / *P ractical Reason*  
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- 1c The role of sen memory and im g na  
 t on in reasoning perceptu l inference  
 r tional remna c nce the collation of  
 im ge
- 7 PLATO *M n* 179d 183a 188d 189a / *Ph edo*  
 224a 225c 228a 230 / *Republic* BK III  
 333b-d K VI- III 383d 398c / *Seventh Letter*  
 809 810d
- 8 ARISTOTLE *Posterior Analytics* BK I CH 9  
 136a 137a c / *Sul* BK I CH I [403-16]  
 632a b BK II CH 7 [43 14<sup>b</sup> 9] 663d 664b  
 / *Sen a d the S nible* CH [436<sup>b</sup>17-437 17]  
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- 12 LUCRETIUS *At r of Things* K IV [353-521]  
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- 18 AUGU IN *C f sions* BK X par 10 73d  
 74a par 6- 9 75b 76b pa 26-38 78a 81 /  
*City f G d* K V CH 6 269b c
- 19 AQUINAS *Summa Theologiae* ART Q 78  
 A 4 AN d REP 4-5 411d 413d Q 81 A 3  
 ANS and REP 430c 431d
- 23 H *Leviathan* PART 52b 54 60 ■  
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- 28 H. v *On A m l Gen at* 332 335  
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- 31 D SC RT *Rule* X 18b 20b-d V V  
 28a 33b / *Dis ou se* RT 41d / *Object ons  
 a d Replies* 229d 230

- (1) *Definitions or descriptions of reasoning the process of thought* 1c *The role of sense memory and imagination in reasoning* perceptual inference rational science the collation of images)

- 35 LOCKE *Human Understanding* bk II ch XI sect 13 146b c  
 36 STERNE *Tristram Shandy* 234b 236b  
 38 ROUSSAU *Inequality* 341d 342a  
 42 KANT *Pure Reason* 23a 24a 34a c 54b-64a 111d 112a / *Practical Reason* 352c 353a  
 49 DARWIN *Descent of Man* 292d 293d  
 53 JAMES *Psychology* 381b 385b 525a 526b 664a 666b esp 664b 665b 667b 674a 676a 686b esp 677a 678b

- 2 The rules of reasoning: the theory of the syllogism

- 7 PLATO *Phaedo* 244c 245c  
 8 ARISTOTLE *Categories* ch 3 [1<sup>st</sup>10-16] 5c d / *Prior Analytics* bk I ch 14 108d 109a  
 9 ARISTOTLE *Rhetoric* bk I ch 2 [1356<sup>th</sup> 13] 596a  
 12 EPICTETUS *Discourses* bk I ch 7 112b-113d  
 18 AUGUSTINE *Christian Doctrine* bk II ch 31-34 651d 653b  
 23 HOBBES *Leviathan* PART I 56b 58a 58d 60b  
 30 BACON *Advancement of Learning* 56 58b esp 57b-58b 59c 60a 96d 97a / *Num O g num* bk I a 1 14 107d 108a PH 104 106 128a-c bk II a 1 27 32 157b 161b esp APH 3 161a b  
 31 DICKINSON *Rules* 1a 40 pass m esp VII 7d 12a, x VII 15d 25 XIV 28b 29 32d / *Discourse* 41 67a c esp PART I 41d-42b PART II 45b-c 46c-48b PART III 50b-51a PART IV 52a  
 33 PASCAL *Geometrical Demonstration* 430b 434a 442a-443b  
 35 LOCKE *Human Understanding* bk IV ch XVII sect 4-8 372c 377d  
 36 STERNE *Tristram Shandy* 318b-319a  
 41 GIBSON *Decline and Fall* 299b  
 42 KANT *Pure Reason* 59c 108a 110d 112d esp 110d 111 115d 119a / *Fundamental Metaphysics of Morals* 253a b / *Judgements* 600d 603d esp 601d 602b  
 53 JAMES *Psychology* 667b-668a 868b 873 esp 869b-870a, 871a 872b 873a 878b 879a

- 2a The structure of a syllogism, its figures and moods

- 8 ARISTOTLE *Prior Analytics* bk I ch 1 26 39a 60b  
 24 RABELAIS *Gargantua and Pantagruel* bk I 22b-c  
 30 BACON *Advancement of Learning* 59c 60a

- 35 LOCKE *Human Understanding* bk I ch XVII sect 4 373c 375a sect 8 377b d  
 42 KANT *Pure Reason* 110d 112d esp 110d 111c 118a b

- 2a(1) The number of premises and the number of terms the middle term in reasoning

- 8 ARISTOTLE *Prior Analytics* bk I ch 4 [3<sup>rd</sup> 32 39] 40d ch 25 58d 59d ch 32 65a d / *Metaphysics* bk V ch 3 [1014 35<sup>th</sup> 3] 534c  
 30 BACON *Advancement of Learning* 59c 60a  
 35 LOCKE *Human Understanding* bk IV ch XVII sect 4 374d 375a sect 8 377c d  
 36 STERNE *Tristram Shandy* 318b-319a  
 42 KANT *Pure Reason* 110d 112d esp 110d 111c 112a 118a c  
 53 JAMES *Psychology* 667b 668a 672b

- 2a(2) Affirmation negation and the distribution of the middle term the quantity and the quality of the premises

- 8 ARISTOTLE *Prior Analytics* bk I ch 4 740d 45b ch 24 58b d ch 26 59d 60b ch 33 65d 66a / *Posterior Analytics* bk I ch 14 108d 109a  
 19 AQUINAS *Summa Theologiae* P T I Q 16 A 1 RE 2 461c 462a  
 35 LOCKE *Human Understanding* bk IV ch XVII sect 8 377b-c  
 42 KANT *Pure Reason* 39c-41c esp 39d 40c

- 2b The kinds of syllogism categorical hypothetical disjunctive modal

- 8 ARISTOTLE *Prior Analytics* bk I ch 33 57b-58b ch 27 29 60b-63d ch 44 68d 69b  
 42 KANT *Pure Reason* 110d 111c esp 111b 175c d

- 2c The connection of syllogisms sortal propositional syllogisms and epistemic syllogisms

- 8 ARISTOTLE *Prior Analytics* bk I ch 25 [42<sup>nd</sup> 1 26] 59c d / *Posterior Analytics* bk I ch 25 [86 33 329] 118a-c  
 35 LOCKE *Human Understanding* bk IV ch XVII sect 4 373a 374d sect 15 379a b  
 42 KANT *Pure Reason* 111d 112d 115d 119a  
 53 JAMES *Psychology* 872b 873a

- 3 The truth and cogency of reasoning

- 3a Formal and material truth logical validity distinguished from factual truth

- 8 ARISTOTLE *Prior Analytics* bk II ch 14 72d 77a / *Posterior Analytics* bk I ch 11 [1<sup>st</sup>16-34] 106d 107a / *Physics* bk I ch 1 [185 5 12] 259d ch 3 [186 4-9] 260d 261a 178c d  
 10 GLEN *Natural Fecundities* bk I ch 14 178c d  
 12 EPICTETUS *Discourses* bk I ch 7 112b-113d  
 18 AUGUSTINE *Christian Doctrine* bk I ch 31 34 651d 653b

- 30 BACON *Advancement of Learning* 57d 58a  
59c 60c / *Natural Organon* BK I APH 14  
107d 108a
- 31 DESCARTES *Rules & 16d 17a / Object and  
and Repl* i 126b 127c
- 35 LOCKE *Human Understanding* BK II CH XI  
SECT 13 146b-c
- 42 HANT *Pure Reason* 36a 37d esp 36b 37b  
180c 182b 193a b
- 44 BO WEILL *John on* 134c d
- 51 TOLSTOY *War and Peace* EP LOGUS II 683d  
684a
- 53 JAMES *Psychology* 872b 879b 885a esp  
880b 882a
- 5b Lack of cogency in reasoning: invalid syllogisms: formal fallacies
- 8 ARISTOTLE *P. Analyt.* BK II CH 6-31  
85c 89b / *Posterior Analyt.* BK I C I 12  
[77<sup>b</sup> 6-34] 106d 107a / *Physic* BK I CH 2  
[8<sup>b</sup> 5 12] 259d CH 3 [86 4-9] 260d 261a
- 9 ARISTOTLE *Rhetoric* BK I CH 24 649d 651d
- 12 EPICTETUS *Discourses* BK I CH 7 112b-  
113d
- 18 AUGUSTINE *City of God* BK I CH 31  
34 651d 653b
- 24 RABELAIS *Gargantua and Pantagruel* BK I  
23b
- 31 DESCARTES *Objections and Replies* 126b 127c
- 33 PASCAL *Variation* 358b 369a
- 42 HANT *Pure Reason* 109b 133d
- 51 JAMES *Psychology* 108a b 227b 228 236b  
[fn 1] 526b [fn 2]
- 5 Lack of truth in reasoning: sophistical arguments: material fallacies
- 7 PLATO *Euthydemus* 65a 84a c / *Phaedrus* 237b  
238a
- 8 ARISTOTLE *P. Analyt.* BK I C 34 35  
66b d BK CH 8 87a b / *Posterior Analyt.*  
BK I CH 16-17 109b 111b / *Topica* BK I C 1  
[100<sup>a</sup> 23] 01 8] 143b d BK VIII CH 1 [60<sup>b</sup>  
23 39] 218b c CH 2 13 220c 221d / *Sophistical  
Refutations* 227a 253d / *Physic* BK I CH 2  
[185 5 12] 259d 3 [186 4-9] 260d 261a
- 9 ARISTOTLE *Rhetoric* BK II CH 24 649d-651d
- 12 EPICTETUS *Discourses* BK I CH 7 112b-  
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- 18 AUGUSTINE *City of God* BK II CH 31  
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- 23 HANSE *Letters* BK I 56b d 58d 60
- 30 BACON *Advancement of Learning* 60a 61d /  
*Natural Organon* BK I PH 38-69 109 116b
- 31 DESCARTES *Rules & 16d 17a / Object and  
and Repl* i 126b 127
- 33 PASCAL *Variation* 367a 368b
- 35 LOCKE *Human Understanding* BK I CH I  
SECT 1 123 BK SECT 3 146b-c BK IV  
CH 9 1379d 380a
- 51 HUME *Human Understanding* SECT VIII DIV  
75 484c TEXT DN 132 509 d
- 42 HANT *Pure Reason* 36d 37d 109b-c 120c  
121c 133d
- 3d Necessity and contingency in reasoning: logical necessity: certainty and probability
- 8 ARISTOTLE *Prior Analytic* BK I CH I [24<sup>b</sup> 18  
26] 39c CH 8-22 45b 57b CH 30 [46 3 10]  
63d BK II CH 25 91a b / *Posterior Analytic* BK  
I CH 2 [72<sup>b</sup> 5 4] 98d 99a CH 6 [75 1 8]  
103a b / *Topica* BK I CH I [100<sup>a</sup> 25 23]  
143a b BK II CH 5 [112 16-3] 157b- BK  
VIII CH 12 [62 35 2] 220c / *Physic* BK  
CH 9 [100 15 29] 277c d / *Metaphysic* BK V  
CH 5 [101<sup>b</sup> 6-8] 535d 536a BK VII CH 15  
[1 39<sup>b</sup> 31-1 40<sup>a</sup> 8] 563d 564a BK XII CH 8  
[107 4 16] 604c
- 9 ARISTOTLE *Ethics* BK I CH 3 [109<sup>a</sup> 12 27]  
339d 340a CH 7 [1 98<sup>a</sup> 25 67] 343d 344a BK  
VI C I 3 388b c / *Rhetoric* BK I CH I [13<sup>b</sup> 3  
18] 591b CH 2 [135<sup>a</sup> 14-30] 596d 597a BK II  
CH 25 [140<sup>a</sup> 13 140<sup>b</sup> 17] 652b-653a
- 12 EPICTETUS *Discourses* BK I CH 112d 113d  
CH 26 131b
- 16 CO RNICUS *Revolutions of the Heavenly  
Sphere* 505a 506a
- 19 AQUINAS *Summa Theologiae* PART I Q 12  
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- 20 AQUINAS *Summa Theologiae* PART II Q 94  
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409a d PART III Q 9 A 3 REP 2 765b 766b
- 23 HOBBES *Leviathan* ART 65 d 71c
- 31 DESCARTES *Rules & 2a 3b XII 23b /  
Discourses* ART 46c 48b / *Meditations* I  
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- 33 PASCAL *Variation* 368b 369a
- 34 HUYGENS *Light* PREF 551b 552a
- 35 LOCKE *Human Understanding* BK IV CH XV  
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366d 371c PAS M CH XVII SECT 2 371d  
372b E T 15 17 378d 379c
- 35 HUME *Human Understanding* SECT IV DIV  
20-2 458a c SECT V 469d 470d esp 469d  
[fn 1] E T X DIV 87-88 489b-490b
- 38 ROUSSEAU *Discourse* I 348a
- 42 HANT *Pure Reason* 14d 17d 18a 191b d /  
*Metaphysic* f M I 387a d
- 53 JAMES *Psychology* 878a 884b
- 4 The types of reasoning: inference or argument
- 4a Immediate inference: transition to modal inference or reasoning
- 7 PLATO *Euthyphro* 196d
- 8 ARISTOTLE *Interpretation* BK I CH 7 [7<sup>b</sup> 3 37]  
27b-c CH [10 6-37] 30d 31b / *Po*

(4 The types of reason ng, inference or argument  
4a Immediate inference its relation to  
mediated inference or reasoning)

- Analysis BK II CH 2-3 39d-40c BK II CH 8 10 79b 81b CH 22 [67<sup>b</sup> 26-68 24] 89b d
- 42 KANT Pure Reason 17d 18a 109d 111c esp 109d 110a 110d 111c

4b The direction and uses of reasoning: the  
distinction between proof and inference  
and between demonstration and dis  
covery

- 7 PLATO Republic BK VI 383d 388a
- 8 ARISTOTLE Posterior Analytics BK I CH 3 [1<sup>a</sup> 25 31] 99c / Topics BK I CH 2 143d 144a / Sophistical Refutations CH 2 227d 228a CH 10-11 234d 237c
- 9 ARISTOTLE Ethics BK I CH 4 [109<sup>d</sup> 30-<sup>b</sup> 13] 340c d
- 11 ARISTOTLE Method 569b 570a
- 23 HOBBS Leviathan PART IV 267a b
- 30 BA CON Advancement of Learning 56c 58b 59c d 96d 97a / No um Organum PRÆF 105a 106d BK I 107a 136a c esp APH II 26 107d 108d A II 29-30 109a APH 69 116a b A II 103 106 127d 128c
- 31 D SCARTES Rules II 2c 3a x 16d 17a XIV 28b c / D SCARTES PART I 46c 48b
- 33 PASCAL Pens es I 171a 172a 40 177b-178a
- 35 LOCKE Human Understanding BK IV CH VII SEC II 340c 341a CH XVII SECT 2 3 371d 372b SECT 6-7 376c 377b
- 42 KANT Pure Reason 15d 16c 110d 111c 119a b 193a 200 esp 193d 194b 199a c / Practical Reason 294a b / Judgment II 570b 572b 572d 574b 600d 603d esp 603b-c
- 51 JAMES Psychology 381b 385b esp 382a 384 385b 672b 673b

4c Inductive and deductive reasoning

- 8 ARISTOTLE Prior Analytics BK I CH 23 90 c / Posterior Analytics BK I CH I [7 11] 97a c [13 17<sup>a</sup> 23 31] 99c CH 18 111b c BK I CH I [92 34 41] 126b / Topics BK I CH I 12 148d CH I 18 [108<sup>b</sup> 12] 152d BK VIII CH 14 [164 11 16] 222d
- 9 ARISTOTLE Ethics BK I CH 4 [109<sup>d</sup> 30 38] 340c CH 7 [109<sup>d</sup> 35 38] 343d BK VI CH 3 388b c / Rh 10 BK I CH 2 [135<sup>b</sup> 30 135<sup>b</sup> 35] 596a 598b BK I CH 20 22 640d 645a
- 28 GILBERT Tractatus Scientiarum FOURTH DAY 252a b
- 28 HUME A Treatise of Human Nature II 280c
- 30 BA CON Advancement of Learning 42a c 57b-58b 61d 96d 97 / No um Organum BK I 107 136a c esp PH I 26 107d 108d PH 69 116a b AP 3 106 127d 128c
- 31 D SCARTES Rules II 2d 3 III 4c d VII 10b 12a XI 17b 18b XI 23b 24c / D SCARTES

- PART VI 61d 62c / Objections and Replies 167c d
- 34 NEWTON Principle BK III RULE IV 271b / Optics BK III 543a III
- 35 LOCKE Human Understanding BK IV CH XII SECT 6-13 360a 362d
- 35 HUME Human Understanding SECT I DIV 9 451c 455a SECT III DIV 19 458a SECT II DIV 26 460b c SECT VIII DIV 6 4 96c SECT IX DIV 8 2 487b-c SECT XII DIV 13 13 508d 509d passim
- 42 KANT Pure Reason 45b-46a 195d 197b
- 43 MILL Utilitarianism 445a 447b passim 475b d [fn 1] passim
- 45 FARADAY Researches in Electricity 6 2a
- 51 TOLSTOY War and Peace EPILOGUE II 690b
- 53 JAMES Psychology 674a 675b esp 675b

4d Direct and indirect argumentation, proof  
by reductio ad absurdum argument from  
the impossible or ideal case

- 8 ARISTOTLE Prior Analytics BK I CH 23 5 b 58b CH 29 62d 63d BK II CH 11 14 8 b 84b CH 17 86b 87a / Posterior Analytics BK I CH 26 118d 119b / Topics BK VIII CH 2 [157<sup>b</sup> 34 158 2] 214b c / Metaphysics BK IV CH 4 [1006 12 29] 525b c BK XI CH 5 [1061<sup>b</sup> 34 1063 12] 590a b
- 9 ARISTOTLE Ethics BK VII CH 2 [1116 12 13] 396b
- 33 PASCAL Vacuum 368b
- 36 STERNE Tristram Shandy 227a 228a

4e Refutation of a proof

- 7 PLATO Sophist 558b d
- 8 ARISTOTLE Prior Analytics BK II CH 20 87c d CH 26 91b-d / Sophistical Refutation CH 4 11 228b 237c
- 9 ARISTOTLE Ethics BK VII CH 1 [1145<sup>b</sup> 1 395b / Rhetoric BK II CH 2 [1396<sup>b</sup> 20] CH 21 [1403 34] 644d 653a esp CH 25 [1402<sup>a</sup> 29] CH 6 [1403 34] 651d 653 c
- 10 GALEN Natural Faculties BK I CH 14 177a 179d
- 31 DESCARTES Objections and Replies 208a c
- 33 PASCAL Vacuum 368b

4f Reasoning by analogy arguments from  
similarity

- 7 PLATO Republic BK II 316a b BK IV 350a b BK VI V 383d 391b
- 8 ARISTOTLE Prior Analytics BK II CH 21 90c 91a / Topics BK I CH 18 [108 6-19] 153d 153a
- 9 ARISTOTLE Rhetoric BK I CH 2 [1357<sup>b</sup> 1358 2] 597c d BK II CH 20 [1393<sup>a</sup> 22 1394<sup>a</sup>] 640d 641d
- 20 AQUINAS Summa Theologiae PART III 5 177a 175 a 3 REP 2 938a 939d
- 23 HOBBS Leviathan PART I 60c 61c
- 30 BA CON No um Organum BK I APH 34 105b BK II AP 27 158 III

- 34 N WTON *Principles* BK III GEN NAT SCHOL, 370b 371a  
 35 LOCKE *H m n Understand ng* BK II CH XI SECT 2 144a c BK IV CH XVI SECT 12 370b 371a  
 35 BERKELEY *Human Knowledge* SECT 105-106 433b-d  
 35 HUME *Huma Understand ng* SECT IX DIV 82 487b ECT XI DIV II 3 502 d DIV II 5 503b  
 42 KANT *Judgement* 547b 548c 600d 603d esp 601d 602a 602b [fn 1]  
 49 DARWIN *O g n of Sp cies* 26 241b  
 53 JAMES *Psychology* 295a b 677a-678a 686b 690a esp 688a 689a  
 54 FREUD *Cult at on and Its D scontents* 801b-c / *New Int oductory Lectu es* 819a

### 5 Reasoning n relation to knowledge opia ion and action

#### 5a The fact and the re asoned f ct mere bel ef d st ngu shed from bel ef on rational gro nds

- 7 PLATO *Men* 188b-189a / *Republic* BK V 370d 373c  
 8 ARI TLE *Posterior A lytics* BK II 6 [75 ii 37] 103 CH II 107c 108c K II CH I 2 122b d 123 / *Soul* BK II CH 2 [413 i 9] 643a b  
 9 AR STOTL *Eth cs* BK I CH 4 [1095 30 b 13] 340c d K 7 [1095 35-4] 343d BK VI K 3 388b-c I 1 392c 393b  
 11 ARCH MEDES *M th d* 569b 570a PRO I 572b  
 20 AQUINAS *Summa Theologica* ART III Q 9 A 3 R 2 765b 766b  
 31 DESCART *Rules* XVI 35a b  
 35 LOCKE *Huma Understand g* BK I CH XXI SECT 25 210c d  
 35 HUM *H man Understand g* s CT II 458a 463d pass m esp DIV 28 33 460d-463d s T V 463d 469 pas m esp D V 38 466b c D V 45 469  
 36 SWIF *G ll et PAR* V 165a b  
 42 KANT *Pur Rc* n 228c d 240b 43c / *Judgement* 601d 607c  
 43 M L Lberr 283 288c passim / *Ut lue* I sm 445d-446b  
 46 H L *Philosophy f H t ry* IN RO 156d 160b  
 53 JAM *Psy hol gy* 689b 690a

#### 5b Scientific reasoning: the theory of demon stration

- PLATO *Men* 174a 190a c / *Republic* BK VI 386d 388a / *Parmen des* 486a 511d esp 491 c / *P lb* 610d 613a  
 8 ARISTOTLE *P r o An h t* K I CH 30 63d 64b / *P t e r o A h t* 97 137 / *M t physc* BK VI C I [1 25<sup>b</sup> I 3] 547b K VII H 5 [ 39<sup>b</sup> 20-104 8] 563 564a

- 9 ARISTOTLE *Ethics* BK VI CH 3 388b c CH 6 389d  
 23 HO BE *Leviathan* PART I 58a-c 60a b 60d 65 d PART IV 267a-c  
 28 HARVEY *On A m l Generat n* 332a 337a c  
 30 B CON *Ad vancement of Learn g* 42a c 56c 59c 61d / *Not m Org num PRE* 105a 106d BK I 107a 136a c esp APH II-26 107d 108d APH 69 116a b APH 103 106 127d 128c  
 31 D SCARTES *Rules I VIII 1a 27d / Discourse* PART VI 60d 67a c  
 33 PASCAL *Vacuum* 365b 366a 368b 369 / *Geometrical Demonstrat* 430b-434a 442a 443b  
 34 N WTON *Principles* BK III RULES 270a 271b / *Optics* BK III 543a b  
 35 LOCKE *Human Understand ng* BK III CH XI s CT 16 303 d BK IV CH I SECT 9 308d 309b CH II SECT 13 309d 312b CH IV SECT 7 325b CH VII s CT II 340 341a CH XII SECT 6-13 360a 362d CH XV SECT I 365a c CH XVII 371c 380d pass m esp s CT 4 371d 376c s CT 15 378d 379b  
 35 HUME *Human Understand g* SECT IV DIV 20 458a b D V 30 462 s CT XII D V 13: 32 508d 509d  
 42 K NT *Pu e Rea on* 1a 13d 190 191a 194b-c 211c 18d esp 217 d / *F nd Prin M taphysc f Morals* 264d / *Pref M taphysc al Element of Eth s* 365a 366a / *Judgement* 463a-467a 542c 543a 603b  
 43 MILL *Util i n sm* 445b d  
 53 JAL ES *Py hology* 674a 675b 677b 862a 865a

#### 5b(1) The indemonstrable basis for demonstration

- 7 PLATO *Cratylu* 112a  
 8 ARISTOTLE *Pr o An h t* s BK I CH I [24 21-16] 39a-c / *Posterior A lytics* K CH 3 99b-100a c I 7 [75 38 b 7] 103 K II 105d 106b H 9-23 111 116a BK I CH 19 136a 137a c / *Physc* BK I CH [ 93 i-9] 269b / *H m k* CH 5 [ 71<sup>b</sup> 13] 362c d / *M t physc* BK H 9 [992<sup>b</sup> 4-993 i] 511a b K III CH 2 [998<sup>b</sup> 26-997 4] 515b-d K V H 4 [ 006 4 ] 525a b CH II [ 1 11 3 4] 530d BK XI CH II [ 063<sup>b</sup> 7 i ] 591d K XI I K 4 [ 78<sup>b</sup> 28-3 ] 610b-c / *Soul* BK I CH 3 [407 22-3 ] 636d 637  
 9 ARISTOTLE *Ge erat n f Animals* K II CH II [74<sup>b</sup> 7-35] 283d 284 / *Eth s* BK V C 3 388b-c CH 6 389d CH 392c 393b  
 19 AQUIN *Summa Th l g a PA T I* Q 17 A 3 R 2 102d 103c R 36 A 3 R 4 194c 195d ART II Q A 4 R 612a 613a  
 20 AQUIN *Summ Theologi* ART Q 94 A AN 221d 223 Q I 2 A 5 AN 359c 360c



5b Sc entific reason ng the theory of demonstration 5b(1) The ind monstrable as a basis for demonstration

28 HARVEY *On Animal Generation* 333d 334d esp 334a

30 BACON *Advancement f Learn g* 59c d 97a

31 DESCARTES *Rules ii* 2a 3b / *Disco rse* PART II 46c-47a / *Med tations i* 76c / *Oby ct ons a d Repl es* 123a b 224b d

35 LOCK *Human Understanding* BK IV CH II SECT I 309d SECT 7-8 310d 311a CH III SECT 4 313b c C I XV SECT I 365a c SECT 3 365d CH XVII SECT 15 378d 379b

42 KANT *Pure Rea on* 217c d / *Practical Reason* 307d 310c esp 309b / *Judgement* 542d 543a

43 FEDERALIST NUMBER 31 103c 104a

43 MILL *Utilitaria sm* 446d 447a 461c-462a 475b d [fn i]

44 BOSW L John on 82b

46 HEGEL *Philosophy of Right* ADDITIO IS 3 116a

5b(2) Definitions used as means in reasoning definit ons as the end of reasoning

7 PLATO *Soph st* 551a 552c / *Seventh Letter* 809c 810d

8 ARISTOTLE *Prior A lytics* BK I CH 43 68d / *Posterior Analytics* K I CH 2 [72 19-24] 98d CH 8 [75<sup>b</sup>21 32] 104a CH 11 [76<sup>b</sup>35-77 4] 105c d CH 22 [82<sup>b</sup>36-83 1] 113b CH 33 [89 17<sup>b</sup>5] 121d 122a c BK II CH 3 123c 128d

/ *Top cs* BK VII CH 5 [ 54<sup>a</sup>23 <sup>b</sup>13] 209d 210a [155 17-23] 210d BK III CH 3 214d 215d / *Metaphysics* BK I CH 9 [99<sup>a</sup>30-993 ] 511b BK III CH 2 [99<sup>b</sup>18 21] 515b K IV CH 4 [100<sup>b</sup>35 1007<sup>b</sup>20] 525 527a CH 7 [10 18 24] 532a b CH 8 [1012<sup>b</sup>3-8] 532c BK X CH 5 590a d BK X CH 4 [1 78 23 30] 610b c / *Soul* BK I CH [402<sup>a</sup>16-403 2] 631d 632a CH 3 [407<sup>a</sup>22-3 ] 636d 637a CH 5 [409<sup>a</sup>3 <sup>b</sup>18] 639b-c BK CH 2 [413 11 19] 643a b

9 ARISTOTLE *Parts of Animals* BK I CH 1 [639<sup>b</sup> 7-64 <sup>b</sup>5] 161d 165d

10 AQUINA *Summa Theol gica* ART I Q 2 A 1 A 2 10d 11d A 2 REP 2 11d 12c Q 3 A 5 A 17 18b 117 A 3 REP -2 102d 103c Q 83 A 11 458d-459c

23 HOB *Leviathan* ART I 56b 60c 65d

31 DESCARTE *Oby ct sa d Repl s* 128c 129a

33 LA CAL *Pensee i* 171a 172a / *Ge metrical Dem t at on* 430b-434b

35 LOCK *Hum U derstand* III K III C I VI SECT 15 17 303b 304 esp s CT 16 303c d BK I CH I S T 20 319b

35 HUME *H m n U derst d g s* CT VII DV 48 470d-471c s CT I DIV 73 484a c SECT X I DIV 131 508d 509a

42 KANT *Pure Re on* 179d 182b 211 218d / *Practical Re on* 293c 294b

51 TOLSTOY *W a d P ce* EPILOGUE II 690b

54 FUD *Inst ncts* 412a b

5b(3) A priori and a posteriori reasoning from causes or from effects from principles or from experience analysis and synthesis

7 PLATO *Phaedo* 242b 243c

8 ARISTOTLE *Posterior A lytics* BK I CH 1 [72<sup>b</sup>25 33] 99c / *Physics* BK I CH 1 25a b / *Generation and Corrupt on* BK I CH 2 [16 14] 411c d / *Metaphysics* BK VII CH 3 [10 <sup>a</sup>33 <sup>b</sup>12] 552a

9 ARISTOTLE *Ethics* BK I CH 3 [1094<sup>a</sup>29-1095 12] 340a b CH 4 [1095<sup>a</sup>30-113] 340c d BK III CH 3 [1112<sup>b</sup>20-24] 358d BK VI CH 8 [114 12 19] 391b / *Politics* BK I CH 1 [ 23<sup>a</sup>1 11] 445b

10 GALEN *Natural Faculties* BK I CH 14 17<sup>a</sup> 178d esp 177c 178c d BK III CH 1 2 199c d

19 AQUINAS *Summa Theologica* PART I-II Q 14 A 5 680a 11

23 HOBBS *Leviathan* PART I 60a b PART IV 267a b

28 RVEY *On Animal Generat on* III 33c

30 BACON *Novum Organum* BK I APH 104 106 128a c

31 D SCARTES *Rules ii* 2d 3a iv v 5a 8a / *Objections and Replies* 128a 129a

33 PASCAL *Vacuum* 368b-369a

34 NEWTON *Optics* BK III 543a b

34 HUYG NS *Light* PREF 551b 552a

35 LOCKE *Human Understanding* BK II CH I S CT 10 123c BK IV CH XII SECT 6-13 360a 362d

35 BERKELEY *Human Knowledge* SECT 31 417a

35 HUME *Human Understanding* SECT IV 458a 463d passim esp DIV 20-21 458a c DIV 34 462a s CT V DI 34 38 464a-466c SECT 21 497b-503c passim esp DIV 105 498d-499a SECT XII DIV 131 132 508d 509d passim

42 KANT *Pure Reason* 14a 20c 34a 36a 110d 111c 115d 120 129a 135a 173a esp 158a 160b 172c 173a 174a 179c 182b 190c 191a 192 b 193d 200c 211c 218d / *Fund Pm* 254a 262a 287d esp 263a 264d 268b d / *Metaphysic of Morals* 253a 254d esp 253d 254a 262a 287d esp 263a 264d 268b d / *Practical Reason* 294a b 307d 308b 309b d 329d 330c / *Science of Right* 405b d / *Judic ment* 600d 603d esp 603 b

43 MILL *Utilitaria sm* 445c-446b

46 H G L *Philosophy of History* INTRO 181d 183c

53 J ES *Psychology* 91a 94b esp 94b 6 32 674b 872a 873a

54 FR UD *Latentism* 400d

5b(4) The role of c uses in demonstration scientific reasoning

7 PLATO *Tmaeus* 455a b 465d-466a

8 AR TOTLE *Posterior Analytics* 97a 113 a c esp BK I CH II 8 128d 136a / *Physics* BK I CH 7 275b d / *Metaphysics* BK I CH 1 [996 18 1026] 514d 515b K M C I [1025<sup>a</sup>

- 13] 547b K VII CH 17 [1041 i<sup>b</sup>11] 565b d  
BK VIII CH 4 [i 44 33<sup>b</sup>20] 569a E
- 9 ARI OTLE *Parts of Animals* BK I E I  
[639<sup>b</sup>7-642<sup>b</sup>5] 161d 165d esp [639<sup>b</sup>34-640 9]  
162b [640<sup>b</sup>3 i] 163 [642 14 i] 165b /  
*Ethics* BK I CH 7 [1098<sup>b</sup>25]-CH 8 [1098<sup>b</sup>35]  
343d 344b
- 16 COPERNICUS *Revolutions of the Heavenly Spher* s 505a 506a
- 19 AQUINAS *Summa Theologica* PART I Q 2 A 2  
ANS and REP 2 3 11d 12c Q 14 A 7 81d 82b  
A II ANS 84c 85c Q 19 A 5 ANS and REP 2  
112d 113c Q 44 A I REP 1 238b 239a Q 57  
A 2 ANS 295d 297a PART II Q 14 A 5  
680a c
- 20 AQUINAS *Summa Theologica* PART II Q 55  
A 4 28c 29d PART I Q 9 A 3 REP 2 765b-  
766b
- 23 HO ES *Leviathan* PART I 60a b PART IV  
267a E
- 28 GALIL O *Two New Sciences* THIRD DAY  
202d 203a FOURTH DAY 252 b
- 28 H RVEY *Calculation of the Birth of the Human  
Generation* 335c 336c 393b c 425a
- 30 BACON *Advancement of Learning* 45a-46a  
46c-47 / *Novum Organum* K 1 APH 48  
110d 111a APH 99 127b c
- 31 DE CART *Discourse* PART IV 52a d  
PART VI 61d 62c 66a b / *Meditations* III  
81d 89a esp 84b 85a 87 88 IV 90a b /  
*Objections and Replies* 108b 112a 120c 122c  
AXIOM V 131d 132a 212c 215a b
- 31 S NOZA *Ethics* PART I AXIOM 2 4 355d  
P 8 SCH L 2 356d 357d esp 357b d  
A END X 369b-372d PART III 395a d  
PART IV PREF 422b d 423c APPENDIX I  
447a
- 34 NEWTON *Principles* BK III RULE I II 270a  
G NERAL S K L 371b 372a / *Optics* BK III  
541b 542a 543a b
- 35 LOCKE *Human Understanding* BK IV CH XII  
CT 9 360d 361b CH XVII SECT 2 371d  
372b
- 35 HUM *Human Understanding* g SECT VII DIV  
6 477a s CT IX D V 82 487b CT XII  
DIV 132 509b
- 38 ROUSSEAU *Emile* I 348 c
- 42 KANT *Pure Reason* 46d-47 164a 171a 183b  
[1a1]/*Fundamental Principles of Metaphysics* I 285c  
286a / *Practical Reason* 310d 311d 339a /  
*Judgment* s 574a b 578a d
- 45 LAVOISIER *Element of Chemistry* ART I 9b-  
10b
- 45 FOURIER *Theory of Heat* 169 183a 184a
- 49 D RWIN *Origin of Species* 217d 218 239b-  
240d
- 50 MARK *Capitulum* 10b 11b p 11b
- 53 JAMES *Psychology* 89b 90 668a 671a esp  
670 b 745b 824b 825a 884b 886
- 54 FREUD *General Introduction* n 454b-c 483d  
484a

# 5b(5) Demonstration in relation to essence and existence demonstrations proper quod and quia

- 8 ARIS OTLE *Metaphysics* BK III CH 2 [996<sup>b</sup>12-21] 515a b BK VI CH I [1025<sup>b</sup>1-18] 547b d
- 19 AQUINAS *Summa Theologica* ART I Q 2 A 2  
11d 12c Q 3 A 4 REP 2 16d 17c A 5 ANS 17c  
18b Q 46 A 2 AN 253a 255a
- 21 DANT *Divine Comedy* PURGATORY III [34-45] 56b
- 23 HO ES *Leviathan* PART I 78d 79 79d 80b
- 31 DE CART *Meditations* I 76c III 81d 89  
VI 96b 103d / *Objections and Replies* 110b-c  
216d 218b 261a
- 35 LOCKE *Human Understanding* g K I CH  
XVII SECT 20 173a CH XXVI SECT 6 240d  
241d esp 241a b SECT II 242d 243 K I  
CH XI SECT 15 17 303b 304a esp SECT 16  
303c d BK IV CH IV SECT 8 325b c CH XII  
SECT 6-9 360a 361b esp s CT 9 360d 361b
- 35 HUME *Human Understanding* SECT IV 458a  
463d pas um esp D V 20 I 458a c D V 30  
461d 462b SECT XII DIV 131 132 508d 509d
- 42 KANT *Pure Reason* 85d 88a 95a d 179  
182b
- 53 JAL *Psychology* 667b

# 5c Dialectical reasoning the opposition of reason arguments

- 7 PLATO *Euthydemus* 55a 84a c / *Phaedrus*  
134b = / *Phaedrus* 242b 243c / *Republic* BK  
VI VII 383d 398c / *Protagoras* 491a 511d /  
*Theaetetus* 525d 526b / *Sophist* 558b d /  
*Statesman* 594d 595d
- 8 ARI OTLE *Poetics* K I CH I [24 -  
16] 39 CH 3 [46 3] 63d / *Poetics* K I  
*Alysis* K I CH 6 [75<sup>b</sup>2 8] 103b c II  
[77<sup>b</sup>5 35] 106b / *Topics* 143 223a, /  
*Sophistical Refutations* s K 2 227d 228a n 9  
234b d CH II 236a 237 / *Hermeneutics* K CH  
10 [279<sup>b</sup>4-12] 370d / *Generation and Corruption*  
BK I CH 2 [316 5-14] 411c d / *Metaphysics*  
BK IV CH 2 [1004<sup>b</sup>18 27] 523d BK XI CH 3  
[1061<sup>b</sup>8 12] 589d BK XII CH 4 [1078<sup>b</sup> 8]  
610b
- 9 ARI OTLE *Rhetoric* K I CH I [1355 28-39]  
594 d
- 12 EPICTETUS *Discourses* K CH 8 113d 114  
BK CH 2 151d 152a
- 19 AQUINAS *Summa Theologica* ART I Q 83 A  
AN 436d-438a
- 20 AQUINAS *Summa Theologica* ART III Q 9  
A 3 K 2 765b 766b
- 24 RABELAIS *Gargantua and Pantagruel* BK II  
101b 106a
- 30 BACON *Advancement of Learning* g 47d-48d
- 31 DE CART *Discourse* PART 43d
- 35 LOCKE *Human Understanding* g K V CH XV  
r 9 369b



42 KANT *Pure Res on* 149d 150a

43 MILL *Utilitarian sm* 445c-446b 456a-457b 475b d [in 1]

46 HEGEL *Philosophy of Right* PART III par 214 71a-c par 216 71d 72a par 222 73b c par 225 229 73d 75b esp par 227 7b d ADDI TIONS 134 138b-c 240 139b-c

### 5 (3) Deliberation the choice of alternative means decis on

5 EURIPIDES *Phoenician Ma den* [528-593] 382c 383a

6 ARISTOTLE *Eth cs* BK III CH 1 [1110 28 35] 356a c 12-3 357b 359a BK VI CH 1 2 387a 388b CH 5 389a-c pos m CH 7 [1141<sup>9</sup> 21] 390c d c 18-g 390d 392b CH 12 [1144<sup>6</sup> 37] 393d 394a

12 AUGUSTIN *M d tation* BK IV SECT 12 264c

19 AQUINAS *Summa Theolog ca* PART I Q 19 A 5 ANS 112d 113c A 7 ANS 114d 115d Q 82 A 2 REP 3 432d-433c Q 83 A 1 A 2 436d 438a PART II Q 213 15 672d-684a Q 44 A 2 808b-d

21 CHAU DR *Tale of Milbeus* 401a-432a esp par 9-36 403a-417b

23 HOBBS *Leviathan* PART I 53a 54a 65c 77d

26 SHAKES PARE *Merchant of Ven* ACT II SC VII [1-75] 416a-417a SC IX [19-72] 417d-418b ACT III SC II [73 39] 420d-421b

30 BACON *Adancement of Learning* 81d 95b

31 DESCARTES *D k u e* PART III 48b 50b

33 LOCKE *Human Understand ng* BK II CH XXI SECT 48 190c d SECT 53 191d 192b SECT 57 193b c SECT 60-73 194a 199c passim

42 KANT *Pu e Res on* 60a-c 169c 170a / *Fund Pri M taphy cs of Moral* 260d 261b 266b 267d 268b / *Practical Res on* 327d 329a / *Science of Right* 395a 399c / *Judgement* 586a b 588b [in 2] 595a d

43 MILL *Liberty* 276b 277a 294d 295b / *Utilitarian sm* 456a-457b

46 HEGEL *Philosophy of Right* PART II par 122 41a

53 JES P h l ogy 794a 798b esp 794a 796a b

### 6 The character of reasoning in the various disciplines

#### 6a Proof n met phys cs and theology

7 PLATO *Pa men des* 486a 511d esp 491a c / *Sophist* 570a-d / *Seventh Letter* 809c-810d

8 ARISTOTLE *Metaphy c* BK IV CH 2 [1004 25 31] 523b-c BK VI CH 1 [1054 8] 547b d BK IV CH 8 [1048<sup>25</sup> 9] 573 574 BK XI CH 3 [1061 10-18] 589b CH 7 [1064 1-9] 592b

11 AQUINAS *Summa Th ologica* PART I Q 1 3a 10c Q 2 A 2 11d 12c Q 32 A 5 REP 2 175d 178a [46 A 2 253a 253a

20 AQUINAS *Summa Theologica* PART II Q 2 A 10 399b-400b PART III SUPPL. Q 75 A 3 REP 2 938a 939d

23 HOBBS *Leviathan* PART I 78d 79a 79d 80a PART II 163a b PART III 165b

29 CERVANTES *Don Quixote* PART I 122b-c

30 BACON *Adancement of Learning* 95d 101c

31 DESCARTES *Medit ons* 60a 71a c / *Obj c tions and Repl cs* 119d 178a 129a

31 SPINOZA *Eth cs* PART I PROP I SCI OL 358d 359b

33 PASCAL *Vacuum* 355b 356b

35 HUMER *Human Understand ng* SECT 1 DIV 2 451b-c DIV 4 451d-452c

40 GISSON *D cine and Fall* 308c d

42 KANT *Pu e Res n* 15c 16c 85d 88a 179c 182b 190a 200c 211c 218d esp 215d 216d / *Fund Pri M taphy cs of Morals* 264d / *Practical Reason* 293c 294b 351b 332c / *Pref M taphy cal Element of Ethics* 365a 366a / *Judgement* 600d 603d

### 6b Demonstration in mathematics analysis and synthe s

7 PLATO *Meno* 180b-183c / *Republic* BK VI 386d 388a BK VII 392a 395c 397c d

8 AR TOTLE *Pra Analytic* BK I CH 41 [49<sup>b</sup> 32 37] 68c / *Postero Analytic* BK I CH 1 [71 11 16] 97a b CH 10 104d 103d esp [76<sup>b</sup> 39-77<sup>a</sup>] 105d CH 1 106c 107c CH 18 111b c

BK II CH 9 [93<sup>a</sup> 21 25] 128a b / *Top cs* BK I CH 4 [132 32 34] 183b BK VI CH 4 [141<sup>b</sup> 22] 194d 195a BK VI c 3 [53<sup>a</sup> 6-11] 208a b

BK VII CH [157<sup>a</sup> 1-3] 213a / *Physic* BK II CH 4 [132 32 34] 183b BK VI CH 4 [141<sup>b</sup> 22] 194d 195a BK VI c 3 [53<sup>a</sup> 6-11] 208a b

BK VII CH [157<sup>a</sup> 1-3] 213a / *Physic* BK II CH 4 [132 32 34] 183b BK VI CH 4 [141<sup>b</sup> 22] 194d 195a BK VI c 3 [53<sup>a</sup> 6-11] 208a b

BK VII CH [157<sup>a</sup> 1-3] 213a / *Physic* BK II CH 4 [132 32 34] 183b BK VI CH 4 [141<sup>b</sup> 22] 194d 195a BK VI c 3 [53<sup>a</sup> 6-11] 208a b

BK VII CH [157<sup>a</sup> 1-3] 213a / *Physic* BK II CH 4 [132 32 34] 183b BK VI CH 4 [141<sup>b</sup> 22] 194d 195a BK VI c 3 [53<sup>a</sup> 6-11] 208a b

BK VII CH [157<sup>a</sup> 1-3] 213a / *Physic* BK II CH 4 [132 32 34] 183b BK VI CH 4 [141<sup>b</sup> 22] 194d 195a BK VI c 3 [53<sup>a</sup> 6-11] 208a b

BK VII CH [157<sup>a</sup> 1-3] 213a / *Physic* BK II CH 4 [132 32 34] 183b BK VI CH 4 [141<sup>b</sup> 22] 194d 195a BK VI c 3 [53<sup>a</sup> 6-11] 208a b

BK VII CH [157<sup>a</sup> 1-3] 213a / *Physic* BK II CH 4 [132 32 34] 183b BK VI CH 4 [141<sup>b</sup> 22] 194d 195a BK VI c 3 [53<sup>a</sup> 6-11] 208a b

BK VII CH [157<sup>a</sup> 1-3] 213a / *Physic* BK II CH 4 [132 32 34] 183b BK VI CH 4 [141<sup>b</sup> 22] 194d 195a BK VI c 3 [53<sup>a</sup> 6-11] 208a b

BK VII CH [157<sup>a</sup> 1-3] 213a / *Physic* BK II CH 4 [132 32 34] 183b BK VI CH 4 [141<sup>b</sup> 22] 194d 195a BK VI c 3 [53<sup>a</sup> 6-11] 208a b

BK VII CH [157<sup>a</sup> 1-3] 213a / *Physic* BK II CH 4 [132 32 34] 183b BK VI CH 4 [141<sup>b</sup> 22] 194d 195a BK VI c 3 [53<sup>a</sup> 6-11] 208a b

BK VII CH [157<sup>a</sup> 1-3] 213a / *Physic* BK II CH 4 [132 32 34] 183b BK VI CH 4 [141<sup>b</sup> 22] 194d 195a BK VI c 3 [53<sup>a</sup> 6-11] 208a b

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## Chapter 78 RELATION

### INTRODUCTION

LIKE quantity and quality relation is generally recognized as a basic term or category. But its meaning like theirs cannot be defined. Relation is perhaps the prototype of an indefinable notion. As Bertrand Russell points out, it seems to be impossible to make any statement of what relation is without using the notion of relation in doing so.

Any term which is essentially relative seems also to be incapable of definition. Its meaning cannot be stated without referring to its correlative, and since the meaning of the latter reciprocally involves the former as its correlative, each member of a pair of correlative terms draws upon the other for its meaning. A part is a part of a whole, a whole a whole of parts. Similarly, the meaning of parent involves the notion of child, and the meaning of child the notion of parent.

Plato applies this maddening fact about correlative terms to all comparatives which presuppose the correlation of more and less. Comparatives such as the hotter and the colder, he writes, are to be ranked in the class of the infinite. They cannot be measured or defined. Term like much and little, great and small, look like quantities, but according to Aristotle they are not quantities but relatives. For things are not great or small absolutely; they are so called rather as the result of an act of comparison.

Concerning quantities and qualities, the ancients ask how they exist. The alternatives seem to be either that they exist in and of themselves, or that they exist as the attributes of substances such as stones and trees. But with regard to relations, the question seems to be whether they exist rather than how they exist.

The supposition that a relation cannot exist apart from the terms it relates may be thought to imply that the relation does exist when the

terms it relates exist. The ancients however do not appear to regard the relation as something having a reality distinguishable from the reality of the correlative terms. It seems to be significant that both Plato and Aristotle discuss relative terms rather than relations as such. For the most part they signify relations by using a pair of words which name things standing in a certain relation to one another.

Thus in the *Categories* Aristotle refers to double and half, master and slave, greater and less, or knowledge and object known as examples of correlative terms. All relatives, he says, have a correlative. Some times it is necessary to find the precise word, or even to invent the right word, for in order to indicate that a given term is relative, its correlative must be appropriately named. Concubine, says Locke, is no doubt a relative name, as well as wife, but in languages where this and like words have not a correlative term, there people are not so apt to take them to be so, as wanting that evident mark of relations which is between correlatives, which seem to explain one another, and not to be able to exist but to each other.

When reciprocity of correlation does not appear to exist, Aristotle suggests that it may be the result of our failure to use words carefully. If we wish to use the term rudder, a relative, we cannot call its correlative a boat, for there are boats which have no rudders. Since there is no existing word, it would be more accurate, Aristotle thinks, if we coined some word like ruddered to name the correlative of rudder. Similarly, in the case of slave as a relative term, its correlative is not man understood in any sense, but only man understood as master.

The things which are designated by a pair of reciprocally relative terms must, according to



Aristotle coexist. One man cannot be called a master unless another man exists who can be called his slave. something cannot be called larger unless something coexistent with it can be called smaller. Aristotle considers possible exceptions to this principle of the simultaneity or coexistence of correlatives as for example in the case of knowledge and the knowable. It seems possible he thinks for the knowable to exist before anyone has actual knowledge of it. But the exception may be due to an improper naming of the correlatives. If the correlative of knowledge is the known rather than the knowable then knowledge and its object may be said to be necessarily coexistent for nothing comes to be an object actually known except simultaneously with someone's coming actually to know it.

THE COEXISTENCE OF things which are correlative to one another still leaves a question concerning the existence of the relation between them. When conceived as an attribute a quality of a quantity can be said to exist in the thing it somehow modifies. In the language of Aristotle such accidents *inhere in* substances and accordingly have reality as long as the substances in which they inhere exist. But a relation does not seem to inhere in a substance. It cannot be the attribute of a single thing. It somehow lies between two things inhering in neither for if it belonged to either one alone it could have some reality if that one existed and the other did not. The question therefore is whether relations really exist at all or are only in the mind of him who compares things or considers them relative to one another.

A sign that the relative is least of all a substance and a real thing writes Aristotle is the fact that it alone has no proper generation or destruction or movement as in respect of quantity there is increase and diminution in respect of quality alteration in respect of place locomotion in respect of substance simple generation and destruction. In respect to relation there is no proper change for without changing a thing will be now greater and now less or equal if that with which it is compared has changed in quantity.

Plotinus also questions the reality of relations. Has relation—for example that of

right and left double and half—any actuality?

What can be the meaning of correlation apart from our conception of it? Justification? Greater may refer to very different magnitudes different to all sorts of objects. The comparison is ours it does not lie in the things themselves. In the case of certain part and time relations he maintains that right and left are in our conception nothing of them is the things themselves. Before and after are merely two things the relation is a aim of our making.

Yet Plotinus seems unwilling to say that we do not mean anything by relation but are victims of words or that none of the relations mentioned can exist. Recognizing what he calls the elusive character of relation, he is willing to affirm the reality of relations when the actuality of the relationships is derived from no other source than relation itself. He thinks that one quantity may be the double of another quite apart from our speech or thought. The fact that one quantity is the double of another is an additional fact about the two quantities over and above all their other properties. In all the conditions in which we assert relation Plotinus declares the mutual relation exists over and above the objects we perceive it as already existent our knowledge is directed upon a thing there to be known—a clear testimony in the reality of relation.

The problem thus seems to become one of distinguishing between relations which have independent reality and those which exist only in the mind. Some have said that relation is not a reality but only an idea. But this Aquinas declares is plainly seen to be false from the very fact that things themselves have a mutual order and relation. Not all relations are real however. Relations which result in the things understood from the operation of the intellect alone are logical relations only inasmuch as reason observes them as existing between two understood things. For example,

the relation of a thing to itself is not a real relation for reason by apprehending one thing twice regards it as two and thus it apprehends a certain relation of a thing to itself.

The same is true of those relations that follow upon an act of reason as genus and species and the like.

Aquinas offers in contrast other relations which are realities with regard to both extremes as when a relation exists between two things according to some reality that belongs to both. This is clear of all relations consequent upon quantity great and small double and half and the like for there is quantity in both extremes.

This distinction between real and logical relations seems to be qualified by the intermediate case of a relation which is partly logical and partly real for according to Aquinas sometimes a relation in one extreme may be a reality while in the other extreme it is only an idea. This happens whenever the two extremes are not of one order. Since God is outside the whole order of creation and all creatures are ordered to Him and not conversely it is manifest that creatures are really related to God Himself whereas in God there is no real relation to creatures but a relation only in idea inasmuch as creatures are related to Him.

In the *Charmides* Socrates raises some doubts about the admissibility of reflexive relations or the relations of things to themselves. Others have questioned the partly real and partly logical relation according to which one thing is related to another but the second is not related to the first. But the more important issues in the tradition of western thought seem to be whether there are both real and logical relations i.e. relations both in nature and in the mind and whether in either case relations enter into the very nature of the things related or are merely external so that the character of a thing is unaffected by the relations in which it stands.

AS INDICATED IN THE chapters on JUDGMENT REASONING and LOGIC relation tends to displace predication in certain typically modern theories of the proposition and of inference. What is currently called relational logic is set against subject predicate logic. Relations themselves without regard to the character of the terms related become the primary object of logical analysis. It is said for example that the proposition John hit James has the form  $aRb$  or  $R(a, b)$  and that the proposition John went to school with James has the form

$R(a, b, c)$ . The first is a dyadic relation the second a triadic relation.

Relations are classified not only with respect to the number of the terms they relate but also with respect to such formal properties as symmetry transitivity reflexivity. The relation of parent and child for example is asymmetrical. It cannot be said if A is the parent of B that B is also the parent of A whereas the relation of brotherhood is symmetrical. Statements of symmetrical relationship are convertible. If we say that A is the brother of B we can also say that B is the brother of A.

The type of relationship remains the same regardless of the character of the terms. Unequal quantities are asymmetrically related equal quantities symmetrically. To the right of is an asymmetrical spatial relation next to is symmetrical in time simultaneous with is symmetrical and prior to asymmetrical. The distinction between transitive and intransitive relations similarly holds for all kinds of terms. The relation of father to son or of standing next to in space is intransitive for if A is the father of B and B the father of C A is not the father of C whereas the spatial relation of standing to the right of is transitive for if A is to the right of B and B to the right of C then A is to the right of C.

The modern analysis of propositions as relational structures which differ in type according to the character of the relations not the character of the terms has an antecedent in Locke's analysis of judgments as acts of comparison which look to the relation between ideas rather than to the ideas themselves. Both analyses lead to a theory of inference which is based on the convertibility of symmetrical relations and on the transitivity of certain relationships and the intransitivity of others. As indicated in the chapter on REASONING the factor of transitivity appears in William James' discussion of the principle of mediate comparison. He states this in the formula *more than the more is more than the less*. Then he explains that

such a formula would cover all possible cases as earlier than early is earlier than late worse than bad is worse than good east of east is east of west etc. etc. *ad libitum*. Symbolically we might write it as  $a < b < c < d$  and say that any number of intermediaries may be ex-

punged without obliging us to alter anything in what remains written

James thus formulates what he regards as the most fundamental law of thought. For series of homogeneously related terms the law is that *skipping intermediary terms leaves the relations the same*. The factor of transitivity enters the picture when James distinguishes between relations which are and relations which are not transferable. All skipping of intermediaries and transfer of relations occurs within homogeneous series, he writes. But not all homogeneous series allow of intermediaries being skipped. It depends on which series they are on what relations they contain. Let it not be said that it is a mere matter of verbal association due to the fact that language sometimes permits us to transfer the name of a relation over skipped intermediaries and sometimes does not as where we call men progenitors of their remote as well as of their immediate posterity but refuse to call them fathers thereof. There are relations which are intrinsically transferable whilst others are not. The relation of *condition* e.g. is intrinsically transferable. What conditions a condition conditions what it conditions—cause of cause is cause of effect. The relations of negation and *frustration* on the other hand are not transferable: what frustrates a frustration does not frustrate what it frustrates. No changes in terminology would annul the intimate difference between these two cases.

THE FOREGOING PASSAGES from James reflect the general tenor of the theory of the calculus of relations. He himself does not systematically expound it. Its elaboration is to be found in the writings of Boole, Couturat and De Morgan, of Jevons, Pierce, Bradley, Royce, Russell and Whitehead (whose works are cited in the *Additional Readings*). Is this relational logic more general than the subject predicate logic that is traditionally called Aristotelian or is the reverse the case?

The modern answer insists upon the greater generality of relational logic. Royce, for example, defining subsumption as a non symmetrical transitive relation which obtains between two classes when one includes the other declares that the entire traditional theory of

the syllogism can be expressed as a sort of comment upon and relatively simple application of the transitivity of the subsumption relation. According to Royce William James axiom of skipped intermediaries represents a step in the right direction but it fails to achieve complete generality.

Russell disposes of the traditional theory of the proposition in the same fashion that Royce disposes of the traditional theory of the syllogism. Traditional logic, he writes, believed that there was only one form of simple proposition (*i.e.* of proposition not stating a relation between two or more other propositions) namely the form which ascribes a predicate to a subject. It is therefore unable to admit the reality of relations: all relations it maintains must be reduced to properties of the apparently related terms. Russell insists on the contrary that propositions stating that two things have a certain relation have a different form from subject predicate propositions. This can be most easily seen: he thinks in the case of asymmetrical relations. The proposition which states that A and B are related by the symmetrical relation of equality can be interpreted to mean that A and B both possess a common property. But when we come to asymmetrical relations such as before and after, greater and less etc. the attempt to reduce them to properties becomes, in Russell's opinion, obviously impossible. The relational theory of the proposition therefore includes the subject predicate theory as a special case.

A defense of the subject predicate logic would not make the counterclaim that relational logic can be treated as a special case. Rather it would insist that the two logics are radically different in principle—that the one belongs to a philosophy of nature and a metaphysics in which substance is the primary concept whereas the other belongs to the empirical sciences and to modern mathematics in which the concept of relation supplants substance. Whichever side of the controversy is taken, the undeniable difference between a relational and a subject predicate logic represents one of the great differences between modern and ancient thought.

It is not only in logic that the modern emphasis seems to be upon relations rather than

upon things related—on relations denuded of their terms rather than on terms treated as correlatives. The same tendency appears in modern mathematics in algebra in the calculus and especially in the theory of equations and functions of sets and series. It also appears in modern physics where according to Cassirer the great conceptual revolution consists in displacing substance by function and the casual interaction of substances by functional relationships and systems of order. Such substitutions obviously parallel the shift in logic—from the consideration of terms related as subjects and predicates to the consideration of relations without regard to differences in the terms related.

In the tradition of the great books this conceptual revolution seems to be announced by the treatment which Hume and Kant accord to the notion of substance. Hume appears to conceive of experience as a series of events related as he says by only three principles of connexion namely *Resemblance Contiguity* in time or place, and *Cause or Effect*. These relations make up the fabric of experience. So long as it consisted in such connections our experience would be the same whether or not there were enduring things or substances.

Nature has established connexions among particular ideas. Hume writes so that no sooner does one idea occur to our thoughts than it introduces its correlative. All our knowledge of matters of fact depends upon the association of ideas or the relations of resemblance contiguity and causation among the elements of experience. All other knowledge has for its object those relations between ideas which do not connect them causally or place them in a spatial or temporal order. In either case relations of all sorts rather than things and their properties (or substances and their attributes) seem to be the prime constituents of nature and of knowledge.

Kant presents a fourfold classification of judgments according to their quantity quality relation and modality. Under the head of relation he distinguishes the categorical the hypothetical and the disjunctive according to the following criteria: *a* Relation of the predicate to the subject *b* Relation of the cause to its effect *c* Relation of subdivided knowledge

and of the collected members of the subdivision to each other. These are he writes all the relations of thought in judgments.

Pointing out that he borrows the term from Aristotle Kant calls the pure concepts of the understanding categories and constructs a table of categories which runs parallel to his table of judgments because as he explains the same function which imparts unity to various representations in one judgement imparts unity likewise to the mere synthesis of various representations in one intuition which in a general way may be called the pure concept of understanding. Kant's categories in contrast to Aristotle's afford a striking example of the shift from substance to relation.

Where for Aristotle substance is the primary category and all other categories signify the accidents of substance among which relation seems to have least reality in the nature of things Kant makes relation one of the four major groups of categories and under relation places subsistence and inherence (or substance and accident) along with causality and dependence (or cause and effect) and community (or reciprocity between the active and the passive). It is not substance but the relation of substance and accident which is for Kant a transcendental category.

THE ISSUE CONCERNING substance and relation takes another form in the problem whether relations exist in the very nature of things as belonging to their essence or only exist as connections between things. In the latter alternative there is still the question whether relations between things are externally affixed to them or are internally inherent in them and affect the natures of the things related.

According to the Christian doctrine of the Trinity there are real relations in God each really distinct from the others yet each identical with the divine essence. These relations are the persons of the Trinity—the relations Aquinas calls paterernity filiation spiration and procession the relation of the Father and the Son and of the Holy Spirit to them both.

Relation in God he writes is not an accident in a subject but is the divine essence itself and so it is substantial for the divine essence is subsistent. Therefore the Godhead

■ God so the divine paternity is God the Father Who is a divine person Therefore a divine person signifies a relation as subsisting

Since the three persons of the Trinity are of the same essence the principle of their real distinction must be found elsewhere Denying that there can be discerned between them a real distinction in respect of the divine essence Descartes does not reject the possibility of a distinction in respect of their relation to one another Aquinas considers two principles of difference among the divine persons *origin* and *relation* but thinks it is better to say that the persons or hypostases are distinguished by relations rather than by origin for among other reasons when a relation is an accident it presupposes the distinction of subjects but when the relation is subsistent it does not presuppose but brings about distinction

It would seem to follow that except in God relations are not subsistent In Aristotle's theory of corporeal substances for example the matter and the form which constitute a physical thing are united not related Though matter and form are conceived as really distinct principles in the composition of a composite substance—as essence and existence are also sometimes said to be really distinct principles in the being of all things except God—their real distinction does not imply that they are subsistent as are the persons of the Trinity nor that they are relations or in relation to one another If real as opposed to logical relations occur only between things which somehow really subsist then those principles which must be united in order for a thing to subsist cannot be really related to one another

With a somewhat different analysis Locke seems to exclude relations from the constitution of what he calls the complex idea of substance All complex ideas according to Locke are either modes substances or relations The complex idea of substance is a collection of those several simple ideas of sensible qualities which we find united in the thing called *horse* or *stone* yet because we cannot conceive how they should subsist alone *nor* one in another we suppose them existing in and supported by some common subject which support we denote by the name substance

though it be certain we have no clear or distinct idea of that thing we suppose a support

The various simple ideas of qualities which together with the indistinct notion of a supporting substratum constitute the complex idea of a particular substance are in Locke's theory compounded not related Relation is itself a complex idea consisting in the consideration and comparing of one idea with another The ideas related may be either simple or complex but the relations are *between* ideas not *in* them—certainly not in simple ideas nor in complex ideas of modes and substances which are combinations not relations of simple ideas

The exception ■ of course a complex idea of relation which involves several distinct ideas and in addition the idea of a relation between them which Locke says it gets from their comparison one with another Since any idea whether simple or complex may be the occasion why the mind thus brings two things together any of our ideas may be the foundation of relation but Locke adds there must always be in relation two ideas or things either in themselves really separate or considered as distinct and then ground or occasion for their comparison

Locke's theory of relations not only seems to exclude them from the interior constitution of substances but also seems to make them entirely extrinsic to the natures of the things related Ideas of relation Locke says may be the same in men who have far different ideas of the things that are related or that are thus compared The relation is unaffected by the things it relates as they in turn are unaffected by it for they are not contained in the real existence of things but [are] something extraneous and super induced

Berkeley and Hume also seem to agree that relations are entirely external Relations are distinct from the ideas or things related writes Berkeley inasmuch as the latter may be perceived by us without our perceiving the former To Hume all events seem entirely loose and separate One event follows another but we can never observe any tie between them They seem *conjoined* but are not *connected* So far as our understanding goes nothing in the nature of one event necessarily

leads the mind to the consideration of another as it would if the event could not be understood by us except as intrinsically related or connected with that other

In the tradition of western thought the issue concerning the internality or externality of relations has profound implications for man's conception of the order of nature or the structure of the world. The difference discussed in the chapter on *CHANGE* between what William James calls the block and the concatenated universe presupposes not only different views of causality but also different positions with respect to the internality or externality of relations as is indicated by James' criticism of Hegel and Bradley.

The relation of part and whole and of one part to another in the structure of an organic whole seems to be the prime example of internal relationship. Each part is thought to be constituted both in its being and nature by the being and nature of the whole to which it belongs and by the other parts which comprise that whole. This may be seen in Spinoza's theory of God or Nature as the one and only substance in and through which everything else both is and is conceived. All things are locked together in a system of internal relationships—the finite parts with one another through the infinite whole which determines each to be what it is in itself and in relation to all others.

RELATION SEEMS TO BE the principle of order. At least it can be said that the various conceptions of order which appear in the great books involve the idea of relation and of different kinds of relationship.

The order of the universe or of nature for example seems to be differently conceived according as things are causally related to one another related as lower and higher species in a hierarchy of grades of being or as the parts of one all embracing whole. In each case it makes a difference as we have already observed whether the relations involved are thought to be real or logical and internal or external to the things related.

Relation similarly enters into conceptions of psychological political and moral order—the order of the parts of the soul the order of classes or functions in the state the order of

goods of means and ends of duties of loves. Just as the status of each thing in nature is affected by whether the universe is conceived as a whole of internally related parts or as a set of externally related wholes so the status of the individual in society is affected by whether the state is conceived as an organic whole or merely as a political order formed by the free association of individuals.

The consideration of the various types of order occurs in other chapters such as *NATURE* *WORLD* *SOUL* *STATE* *GOOD AND EVIL* and *BEAUTY*. Particular types of relationship are also discussed in chapters concerned with the terms between which such relationships hold—the relation of cause and effect in the chapter on *CAUSE* spatial and temporal relationships in the chapters on *SPACE* and *TIME* the relation of species and genus in the chapters on *EVOLUTION* and *IDEA* relations of equality and inequality in the chapter on *QUANTITY* and relations of similarity and dissimilarity in the chapter on *QUALITY*.

This last type of relationship more broadly conceived as including not merely likeness in quality but the sameness or similitude of things in every sort of respect is the main consideration of the chapter on *SAME AND OTHER*. The theory of analogy is discussed there also for though it is concerned with relation—a proportion being a ratio of ratios—the specific relationship by which relations are themselves related in analogies or proportions seems to be one of similitude (either identity or similarity).

Finally the idea of relation seems to be involved in the contrast between the absolute and the relative. Things are said to be considered absolutely when they are considered in themselves and relatively when they are considered with reference to something else. By extension of these meanings relativism tends to assert that with regard to most things if not all what they are depends on the point of view—their relation to man to *this* group of men or even to *this* man. Absolutism goes to the opposite extreme of saying that things are what they are independently of man's view of them. The opposition of these two tendencies creates familiar issues concerning the true the good and the beautiful which are discussed in the chapters devoted to those subjects.

## OUTLINE OF TOPICS

- 1 The general theory of relation
  - 1a The nature and being of relations the distinction between real and logical or ideal relations
  - 1b The effect of relations on the nature and being of things internal and external relations
  - 1c The coexistence of correlatives
  - 1d Relational unity or identity of relation the notion and use of analogy or proportionality
- 2 Order and relation in God the divine processions and the relations constituting the Trinity of persons
- 3 The relation of God to the world divine immanence and transcendence
- 4 Relation in the order of thought or knowledge
  - 4a The definability or indefinability of relative terms
  - 4b The proposition or judgment as a statement of relation relation in reasoning
  - 4c The transcendental categories of relation
  - 4d Relations as objects of knowledge ideas of relation
  - 4e The relations between ideas
  - 4f The types of relationship underlying the association of ideas in thought memory and dreams
- 5 Order as a system of relationships or related things
  - 5a The nature and types of order inclusion and exclusion succession and coexistence priority posteriority and simultaneity
    - (1) The order of the causes or of cause and effect
    - (2) The order of goods or of means and ends the order of loves
    - (3) The order of quantities the types of proportion
    - (4) The order of kinds hierarchy species and genus
  - 5b The order of the universe or of nature the hierarchy of beings
  - 5c Order as a principle of beauty
- 6 The absolute and the relative modes of consideration
  - 6a Absolute and relative with respect to space time motion
  - 6b Absolute and relative with respect to truth
  - 6c Absolute and relative with respect to goodness or beauty

## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 *HOMER Iliad* bk 11 [265 283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section II of page 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 *JAMES Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 *PLATO Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of work (such as PART or CHAPTER) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* bk 11 [ 65 83] 12d.

**BIBLIOGRAPHIC.** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) if necessary e.g. *OLD TESTAMENT Nehemiah* 7 45—(D) *Iliad* 11 65 83] 12d.

**SYMBOLS.** The abbreviation sp calls the reader's attention to one or more especially relevant part of a whole reference. pass m signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Granger's Ideas* consult the Preface.

## 1 The general theory of relation

## 1a The nature and being of relations the distinction between real and logical or ideal relations

7 *PLATO Charmides* 8d 9d / *Cratylus* 86d / *Phaedrus* 242 245d / *Republic* bk v 372d 373b / *Timaeus* 448b-449 / *Form of the Good* 489 e / *Sophist* 570a 574 / *Statesman* 594a b

8 *ARISTOTLE Categories* ch 7 11 13d / *Physics* bk i ch i [ 10<sup>b</sup> 9-32] 278b bk v ch 2 [ 2<sup>a</sup> 13] 305d / *Metaphysics* bk i ch 9 [99<sup>b</sup> 9-17] 508d bk v h 15 542 543 bk iv ch i [1088 15<sup>b</sup> 4] 620b d

9 *ARISTOTLE Ethics* bk i ch 6 [ 96 17 29] 341b

17 *PLATINUS Sixth Ennead* yr i ch 6-9 254d 257a

19 *AQUINAS Summa Theologiae* part q 6 a 2 re 28d 29 q 13 a 7 68d 70d q 28 aa 1 2 157 160a a 4 an nd re 3 4 160c 161d q 4 a 2 r 4 214b-215b q 4 a 1 re 4 224b-225d q 45 a 3 r p 3 244 d

20 *AQUINAS Summa Theologiae* part i q 49 a 1 ans 1b 2b part i q 2 a 7 rep 2 718b-d

31 *D. CARTES Rules* vi 8c

35 *LOCKE Human Understanding* bk ii ch xxxv 214d 217a ch xxx s ct 4 238d 239a

35 *BERKELEY Human Knowledge* ct 415 sect 8 j 430

42 *KANT Pure Reason* a 41 45b esp 42c 43d 44c 61a 64a esp 62d 63 72c 85d esp 72 74b 99a 108a / *Practical Reason* 339a b

46 *HELLENIC Philosophy* f H st j intro 156b

53 *JAMES Psychology* 157b 159b esp 158b 159b 458a 459b 549a 550b 863b [in a] 865b 866a 873a h 879b 885a pass m esp 880b-882a 884b 885 889 890a

## 1b The effect of relation on the nature and being of things internal and external relations

7 *PLATINUS Timaeus* 521d 522b

8 *ARISTOTLE Categories* ch 7 [8<sup>b</sup> 2<sup>a</sup>] 13a d / *Physics* bk v ch [2<sup>a</sup> 13] 305d / *Metaphysics* bk x h 12 [ 68 10-16] 596d 597a bk xv c i [ 88 15 4] 620b d

19 *AQUINAS Summa Theologiae* part i q 3 a 7 68d 70d q 8 aa 157 160 q 30 a 7 re 3 167 168 q 4 a 2 p 3 4 214b-215b q 44 a r 238b 239a q 45 a 3 244a d



- 1 *The general theory of relations* 1b *The effect of relations on the nature and being of things, internal and external relations*
- 20 AQUINAS *Summa Theologica* PART III Q 2 A 7 REP 2 718b d / PART III SUPPL Q 79 A 2 REP 2 953b 955c
- 31 SINOZA *Ethics* PART I AXIOM 5 355d P OF 2 3 355d 356a
- 35 LOCKE *Human Understanding* BK II CH XXV SECT 4-5 215c d BK IV CH VI SECT II 334b-335b
- 42 KANT *Pure Reason* 99a 101b
- 46 H GEL *Philosophy of Right* PART I par 74 31d / *Philosophy of History* PART I 220c
- 53 JAMES *Psychology* 142a b 458-459b 550b 551b [in 2] 640b [in 1] 644b 645a 660a b 669a
- c *The coexistence of correlatives*
- 7 PLATO *Charmides* 8d 9d / *Gorgias* 267c 268a / *Republic* BK IV 351b 352b / *Theaetetus* 520a b 521b 522b
- 8 ARISTOTLE *Categories* CH 7 [6<sup>b</sup>26-8 12] 11b 13a CH 10 [11<sup>b</sup>23 33] 17a / *Topics* BK V CH 6 [13<sup>b</sup> 7 26] 187b c BK VI CH 4 [14 22 33] 195c d
- 9 ARISTOTLE *Rhetoric* BK II CH 19 [1302<sup>b</sup> 3 4] 640a
- 10 GALEN *Natural Philosophy* BK CH 4 169a
- 17 PLOTINUS *Sixth Ennead* TR I CH 7 255d 256a
- 19 AQUINAS *Summa Theologica* PART I Q 13 A 7 R P 6 68d 70d Q 40 A 2 B 4 214b-215b
- 35 LOCKE *Human Understanding* BK II CH XXV SECT 2 215b = S CT 5 215d
- 4 KANT *Pure Reason* 83b 84d
- 40 H GEL *Philosophy of Right* PART I par 7-31c par 74 31d
- d *Relational unity or identity of relation the notion and use of analogy or proportionality*
- 7 PLATO *Gorgias* 267c 268a / *Timaeus* 448b d
- 8 ARISTOTLE *Posterior Analytics* BK I 10 [76 30<sup>b</sup> 105 BK II CH 4 [98<sup>a</sup>20- 3] 134a n 17 [99 16] 135a b / *Topics* BK CH 7 [108<sup>a</sup>6-14] 152b BK IV C 14 [124 5 0] 12d BK V CH 7 [136<sup>b</sup>33 37<sup>a</sup>20] 189a c c 18 [138<sup>b</sup> 23 7] 191b-c / *Physics* BK II 7 [191 8 2] 266d BK VI CH 4 [49<sup>a</sup>2 24] 332b / *Generation and Corruption* BK I C 16 [333 7 34] 434a / *Meteorology* BK II CH 9 [387<sup>b</sup> 6] 491c / *Metaphysics* BK V CH 6 [6<sup>b</sup>32 1017 3] 537c n 9 [1018 12 13] 538d BK V CH II [1037<sup>a</sup>5-9] 560c BK X C 1 [046 4-8] 570d 571a c 6 [1048 3 8] 573d 574a BK XI C 1 4-5 599d 601a pa m / *Soul* BK III C 7 [431<sup>a</sup>20-<sup>b</sup>1] 663d 664a BK 8 [431<sup>a</sup>20-432<sup>a</sup>2] 664b-c
- 9 ARISTOTLE *History of Animals* BK I CH I [486 15-487<sup>a</sup>1] 7b-d BK VIII CH I [638<sup>b</sup>3-5] 114b d / *Parts of Animals* BK I CH 16 d 168c CH 5 [645<sup>b</sup>1 33] 169b-d / *Generalization of Animals* BK I CH I [715<sup>a</sup>17 26] 255d BK II CH 10 [760 9-17] 301b / *Ethics* BK I CH 6 [1006<sup>b</sup>27 29] 342a BK V CH 3-5 3 &c 41d passim BK VIII CH 7 [1158<sup>b</sup>29 33] 410d / *Politics* BK V CH I [1301<sup>a</sup>29-36] 591d / *Rhetoric* BK I CH 2 [1357<sup>b</sup> 5 1358<sup>a</sup>7] 597 d BK II CH 20 [1393<sup>a</sup>22 1394 8] 640d 641d BK III CH 4 657b d CH 10 662c 663d CH I [1412<sup>b</sup>33 1413 13] 665c d / *Poetics* CH II [1457<sup>b</sup>6-33] 693a-c
- 11 EUCLID *Elements* BK V 81a 98b exp d DEFINITIONS 3-6 81a BK VII DEFINITION 5 20 12 b
- 11 NICOMACHUS *Arithmetic* BK II 841c-d
- 16 KEPLER *Harmonies of the World* 1078b-1080a
- 19 AQUINAS *Summa Theologica* PART I Q 4 A 1 22b 23b Q 5 A 6 REP 3 27c 28b Q 12 A 1 REP 4 50c 51c Q 13 AA 5-6 66b 68a 1071c 73c Q 14 A 3 REP 2 77d 78b Q 16 A 6 A 1 98b d Q 33 A 3 ANS 182c 183c Q 44 A 1 ANS 240b 241a Q 54 A 3 ANS and REP 1 286c 287b Q 66 A 2 ANS 345d 347b Q 95 A 1 R P 3 492a d PART II Q 20 A 3 REP 1 713c 714c Q 7 A 3 R P 2 738c 739c
- 20 AQUINAS *Summa Theologica* PART II Q 6 A 1 REP 1 34d 55c PART III Q 60 A 1 A 1 847b 848a PART III SUPPL Q 69 A 1 REP 2 885 886c Q 92 A 1 R P 6 102 c 1032b
- 24 RABELAIS *Gargantua and Pantagruel* BK I 12d 13b
- 28 HUME *On Animal Generation* 336b-d 449a b 469d 470 i
- 30 BACON *Notum Organum* BK II APP 27 15 b 158d
- 31 DESCARTES *Objections and Replies* 158b-161d
- 35 LOCKE *Human Understanding* BK II CH XXV II SECT I 228c
- 35 HUME *Human Understanding* SECT IX D V 82 487b =
- 42 KANT *Pure Reason* 72c 74b / *Judgment* 601d 603a
- 49 DUNN *Origin of Species* 212d 213c
- 53 JAMES *Psychology* 688 689b passim
- 2 *Order and relation in God the divine processions and the relations constituting the Trinity of persons*
- 18 AUGUSTINE *City of God* BK X CH 24 312d 313c BK XI CH 10 327d 328d
- 19 AQUINAS *Summa Theologica* BK I Q 3 14a 20c Q II AA 3 4 49a 50b Q 28 157c 161d Q 29 A 4 165c 167a Q 30-4 167 217c passim Q 41 A 5 222b-223b Q 42 224a 230a
- 21 DUNN *Divine Comedy* PAR DISC XXIV [147] 144a XXXIII [76-145] 157a d

22 CHAUCER *Second Nun's Tale* [5791-809]

467a ■

23 HO ES *Leviathan* PART I 97 ART III  
207b 207d 208c PART IV 259d

31 DESCARTES *Mediatas* s v 93 96a / *Objec-  
tions and Replies* POSTULATE V 131b c 159b  
161d 217d 218b 232b

31 S NOZA *Ethics* PART I ■ I 355a DEF 3-6  
355b d 8 EXPL 355c PROP 7 356c PROP  
10-11 358a 359b PROP 15 d 10NST 360a  
PR 17 SCHOL 362c 363c PROP 20 363d  
364a PROP 23 364d 365a RO 29 SCHOL  
366b c PRO 32 COROL 367b PRO 33  
SCHOL 2 367d 369a

32 M L T N *Paradise Lost* BK II [56-415] 136b  
144b esp [315 34] 142a ■ [383-389] 143b-  
144a BK V [600-615] 188b BK X I [469-55]  
329b 331a

40 G B B O N *Deline and F II* 307b 310b 313b  
esp 310b-311d

41 G O N *Decl e and Fall* 422a c 521c

46 H E G E L *Philosophy of History* PART III  
306a c

### 3 The relation of God to the world d ine immanence and transcendence

■ AU USTIN *Confessions* BK I par 2-3 1b 2a  
K II pr o 15b-d K IV par 26 25c d  
par 31 26c 27 BK VI pr 4 3b b BK VII  
par 2 43b-44a par 7 45a d par 17 49a pr  
21 49d 50a K X par 8-10 73b 74a BK XI  
pr 7 100d 101a pr 21 103d 104a / *Cury  
of God* BK VII CH 6 248a ■ 30 261b d  
BK XII CH 2 343 d CH 17 353a 354a CH  
25 358b-359a BK XX CH 13 519a 520a /  
*Chitan Do i ne* BK CH 12 627c d CH 32  
633 d

19 AQUINA *Summa Theologica* PART I Q 3 A 8  
19d 20c Q 6 A 2 REP 1 28d 29c Q 8 34c 38  
Q 13 A 7 68d 70d ■ 18 A 4 107d 108c Q 26  
A 1 R P 3 157 158d A 4 ANS 160c 161d  
Q 44 A 1 REP 238b 239a Q 45 A 2 REP 2  
242d 244a A 3 244a d Q 5 A 3 RE 3 277  
278c Q 52 A ANS 279b 280a Q 61 A 3 RE  
316 d ■ 103 A CONTRARY AND ANS  
529 530a Q 104 A 1 534c 537b ART  
I Q 17 A 8 REP 692a c

20 AQUINA *Summa Theologica* PART II Q 28  
A 2 R P 3 511a d

21 D N T *D i e c m dy* ARAD SE II [II 48]  
109a ■ XI [52-66] 126a XIX [40-66] 135c d  
XXVIII 148d 150b XX X [127 145] 151 d  
XXV II [76-93] 157a

28 HARVEY *On Animal Generation* 428c d

31 DESCARTES *Discours* RT V 52a d /  
*Meditations* I 87b-88c / *Object s nd  
Repl es* 110b-112a 158b-159a 213b-d  
214a d

31 S O A *Ethics* PART I 355a 372d esp d  
3-6 355b AX OM I 2 355c NF -8 355d  
357d RO IO H L 358 b PROP 7

SCHOL 362c 363c, PROP 24 30 365a 366d  
PROP 33 SCHOL I-2 367c 369a PART II  
PROP I II 373d 377

32 M T O N *Paradise Lost* BK XI [334 346] 306b

34 NEWTON *Principles* BK III GEN RAL SCHOL  
370a 371a

35 LOCKE *Human Understanding* K II CH X I  
s CT 18 152a c CH XV s CT 12 165b-

35 BERKELEY *Human Knowledge* CT 149-150  
442d-443b SECT 155 444b-c

35 HUM *Human Understanding* s CT VII DIV  
56 475a E

42 KANT *Pure Reason* 192c d / *Practical Rea-  
son* 334b 335b / *Judgement* 566c d 580c d  
592a c

46 HEGEL *Philosophy of History* RT I 220c  
221a 224a b 246c 247a ■ RT III 305a c  
PART IV 322a-c 349b-350a

### 4 Relation in the order of thought or knowl- edge

#### 4a The definition of relation d fin 'ibility of relation terms

7 PLATO *Phaedrus* 615 616c

8 ARISTOTLE *Catego* CH 7 [636-7<sup>b</sup> 4] 11a  
12b [8 12<sup>b</sup> 24] 13a d / *Top* CH IV CH  
[120<sup>b</sup> 36-12 6] 168d CH 4 [121<sup>b</sup> 34]  
173c d [5 14<sup>b</sup> 14] 174a BK VI CH 4  
[142<sup>b</sup> 22 33] 195c d H 5 [142<sup>b</sup> 3 143 12]  
196b CH 6 [145 12-20] 198d 199b CH 8  
200b-201a CH 9 [147<sup>a</sup> 23 3] 201b H 12  
[149<sup>b</sup> 4-3] 203d 204a / *S phical Refuta-  
tions* CH 13 238d 239a CH 31 250c d

19 AQUINAS *Summa Theologica* PART Q 44  
A 1 REP 238b 239

#### 4b The proposition or judgment s a state ment of relation relation in reasoning

35 LOCKE *Human Understanding* BK V CH  
s CT I-7 307a 308a esp SECT 7 307d 308a CH  
X I SECT 6-8 350a c

35 HUME *Human Understanding* s T IV DIV  
458a b

42 KANT *Pure Reason* 39c-41c esp 40c d 51d  
52b

53 JAMES *Psychology* 174b 176a 213b 214a p  
214b [in I] 302b 304b 638b 640b [in I]  
869a 874a ■ SUM esp 870b 871a 878a 879b  
889a

#### 4c The transcendental categories of relation

42 KANT *Pure Reason* 41c 45b esp 42c 43d-44c  
61a 64a esp 62d 63c

#### 4d Relation as objects of knowledge d s of relation

7 PLATO *Phaedrus* 242 245d / *Republic* BK VII  
392b 393b

8 A T T L *Categor* CH 7 11a 13d / *Meta-  
physics* K C 9 1990<sup>b</sup> 9-1 502d

#### 4 Relation in the order of thought or knowledge 4d Relations as objects of knowledge (ideas of relation)

- 19 AQUINAS *Summa Theologica* PART I Q 13 A 7 68d 70d Q 28 A 1 ANS and REP 4 157c 158d A 4 REP 2 3 160c 161d Q 44 A 1 REP 1 238b 239a
- 35 LOCKE *Human Understanding* BK II CH XI SECT 4-5 144d 145a CH XII SECT 1 147b d SECT 3 147d 148a SECT 7 148c CH XXI SECT 5 179c d CH XXV-XXVIII 214d 233d passim esp CH XXV 214d 217a CH XXX SECT 4 238d 239a BK IV CH III 313a 323d passim CH IV SECT 1 323d 324a SECT 7 325b SECT 18 328d 329a CH VI SECT 13 335c d SECT 16 336d CH VII SECT 1 7 337a 338c esp SECT 1-337a CH XI SECT 13 14 357d 358c CH XII SECT 6-8 360a CH XVII S CT 8 377c
- 35 HUME *Human Understanding* SECT IV DIV 20 458a SECT XII D V 131 508d 509a
- 38 ROUSSAU *Inequality* 349b
- 42 KANT *Prior Reason* 24a 33d esp 31d 32c 61a 64a esp 62d 63c 99a 101b 119a 120
- 53 JAMES *Psychology* 157b 161a esp 158b 159b 160a 162b [fn 1] 167b 301b 304b passim esp 302b 303b 319b 327a esp 319b 320a 323a 324b 326a 386a 411a 413 457a 459b esp 459b [fn 3] 549a 552a esp 549b 550b
- 54 FREUD *Unconscious* 442d / *Ego and Id* 700d 701a
- #### 4e The relations between ideas
- 35 LOCKE *Human Understanding* BK II CH XI SECT 4-5 144d 145a CH XII SECT 5 179c d BK IV CH III 313 323d passim CH V SECT 1 323d 324 S T 7 325b SECT 18 328d 329a CH VI SECT 13 335d SECT 16 336d CH VII SECT 1 7 337a 338c esp S CT 2 337a CH XI SECT 13-14 357d 358c esp SECT 13 358 CH XII SECT 6-8 360a c
- 35 BERKELEY *Human Knowledge* SECT 89 430c
- 35 HUME *Human Understanding* SECT IV DIV 20 458a b S V 30 462a
- 42 KANT *Prior Reason* 41c-45b esp 42c 43d 44c 61a 64a esp 62d 63 99a 108 S 119b
- 53 JAMES *Psychology* 167b 176a esp 168 174b 176 300b 301b [fn 1] 319b 320 867 879b esp 868b 869a 874a 878a 879b 889a b
- #### 4f The types of relationship underlying the association of ideas in thought memory and dreams
- 8 A INOTILE *Memory and Reminiscence* CH 2 [45 b 452b] 692d 694b
- 35 HOBBS *Leviathan* PART I 52b c
- 31 SPINOZA *Ethics* PART II PROP 18 381d 382b
- 35 LOCKE *Human Understanding* BK II CH XXXIII 248b 251d esp SECT 5 18 248d 251c

- 35 HUME *Human Understanding* g SECT III 437c 458a SECT V DIV 41 45 457d 469c
- 36 STERNE *Tristram Shandy* 194a
- 42 KANT *Prior Reason* 51c d
- 53 JAMES *Psychology* 360a 364a esp 360a 361a 367a 370b esp 369a 370a 378a 387b esp 378a 387a S 677a 678b passim
- 54 FREUD *Hysteria* 74a 75a 76c d / *Interpretation of Dreams* 265a 272c passim 348 399c esp 348d 349a 352a c / *General Introduction* 486b 489c passim esp 487d 488a
- #### 5 Order as a system of relationships or relations
- #### 5a The nature and types of order: inclusion and exclusion, succession and coexistence, priority, posteriority, and simultaneity
- 7 PLATO *Statesman* 594a 595a / *Philebus* 615c 617d
- 8 ARISTOTLE *Categories* CH 7 [7<sup>b</sup>15 23] 12b c CH 12 13 19d 20d / *Interpretation* CH 13 [2<sup>a</sup> 18 26] 35b c / *Prior Analytics* BK I CH 1 [2<sup>a</sup> 26-31] 39d / *Posterior Analytics* BK I CH 2 [7<sup>b</sup>33 72 5] 98b c CH 27 119b BK II CH 12 129d 131b CH 16 [98 35 24] 134b c / *Topics* BK II CH 4 [111<sup>a</sup>24 31] 156d 15 a BK VI CH 4 194c 196a passim CH 6 [145<sup>a</sup>21 31] 199b c / *Physics* BK VII CH 1 [24 16-41<sup>a</sup>] 326b 327b / *Metaphysics* BK III CH 3 [99<sup>a</sup> 6-14] 517d K V CH 2 [1014 20-25] 534b c CH II 539c 540a BK IX CH 8 575b 577a BK XII CH 1 598a c BK XIII CH 2 [1077<sup>a</sup>14 14] 608b 609a
- 9 ARISTOTLE *Parts of Animals* BK II CH 1 [64<sup>a</sup>25 10] 170b c / *Generation of Animals* BK II CH 6 [742 16-743 1] 283b-284a / *Ethics* BK I CH 6 [1096 17-23] 341b c / *Politics* BK I CH 1 [1252 17-24] 445b CH 5 [1254<sup>a</sup>29-33] 447d-448a BK III CH 1 [1275 35 2] 472b
- 11 NICOMACHUS *Arithmetic* BK I 813a-d
- 18 AUGUSTINE *Confessions* BK XII PART 40 109b 110a / *City of God* BK XIX CH 13 519b
- 19 AQUINAS *Summa Theologica* PART I Q 3 A 1 ANS 14b 15b A 6 ANS and REP 2 18c 19a Q 12 A 10 59a d Q 16 A 4 97a-c Q 45 A 3 REP 3 244a d Q 66 A 4 REP 4 348d 349d 94 A 3 ANS 504a 505a
- 20 AQUINAS *Summa Theologica* PART II Q 40 A 2 AN 2b-4a Q 50 A 2 REP 3 7c 8a Q 110 A 4 REP 4 350d 351d
- 28 HARVEY *On Animal Generation* 390c 415c 447a b
- 31 DESCARTES *Object and Replies* 228a b
- 31 S INOZZA *Ethics* PART I PRO 1 355d
- 35 LOCKE *Human Understanding* BK II CH XIV SECT 1-12 155b 157c passim esp SECT 3 4 155c 156a S CT 6 156b-c S CT 12 157b-c
- 35 HUME *Human Understanding* SECT V DIV 41 43 467d-468d

- 38 ROUSSEAU *Social Contract* K II 399  
 42 KANT *Pure Reason* 72 85d esp 72c 74b  
 51 TOLSTOY *War and Peace* EPILOGUE II  
 691a-693d  
 53 JAMES *Psychology* 319b 322a passim esp  
 319b 346 b 399a b 547a 549a esp 547b  
 [fo i] 548b-549a 571b 573a 631b  
 54 FREUD *Civilization and Its Discontents* 779c

5a(1) The order of the cause or of cause and effect

- 7 PLATO *Lysis* 24b / *Phaedrus* 124b c /  
*Euthyphro* 195c d / *Gorgias* 267c 268a /  
*Timaeus* 455a b 465d-466a / *Theaetetus*  
 521d 522b / *Philebus* 617b c / *Laos* BK X  
 762b 763b  
 8 ARISTOTLE *Categories* CH I [14<sup>b</sup>10-2] 20b  
 / *Posterior Analytics* BK I CH 2 [71<sup>b</sup>33 72<sup>a</sup>6]  
 98b- BK I CH II 129d 131b CH 16- 8 134b  
 135a / *Physics* BK I CH 6 [198<sup>b</sup> 13] 275a  
 CH 8-9 275d 78 c BK III CH 2 [202<sup>a</sup>2 12]  
 275d BK VII CH 1-2 326a 329 BK VI 1334a  
 355d / *H Meteorology* BK I CH 7 [275<sup>b</sup> 2] 366a d  
 [275<sup>b</sup>18-29] 366d 367a / *Generation and Cor-  
 ruption* BK I CH 7 421d-423b / *Metaphysics*  
 BK II CH I [993<sup>b</sup>23]-CH 2 [994<sup>b</sup>31] 512a 513b  
 BK V CH 2 533b-534c BK XI CH [1065<sup>b</sup>2-4]  
 593d BK XII CH 3 [1070<sup>a</sup>21 24] 599 CH 4  
 [10<sup>b</sup> 2 35] 600b CH 5 [107<sup>b</sup> 35 36] 601a  
 CH 6-8 601b-605a  
 9 ARISTOTLE *Parts of Animals* K I H I [639<sup>b</sup>  
 11-642<sup>a</sup>24] 161d 165b esp [639<sup>b</sup>1 31] 161d  
 162a BK I CH I [646<sup>a</sup>25<sup>b</sup> 1] 170b c / *Mor-  
 tal of Animals* CH 5 235 d / *Generation of  
 Animals* BK I CH 6 [742<sup>b</sup>16-27] 283b d /  
*Rhetoric* BK II CH 23 [1400<sup>a</sup>28-35] 649  
 10 GALEN *Natural Faculties* CH 4 169a  
 16 KELLER *Eponym* BK V 854b 959a 960a  
 17 PLOTINUS *Sixth Ennead* TR VII CH 2 322b-  
 323a  
 18 AUGUSTIN *City of God* BK VII CH 24 25  
 358a 359a BK XXII H 2 587b 588a CH 24  
 609b-610a  
 19 AQUINAS *Summa Theologiae* ART I Q 3  
 12c 14 Q 3 A I ANS 14b 15b A 2 AN 15c  
 15a A 4 AN 16d 17c A 6 AN 18c 19a A 7  
 ANS 19 A 8 ANS and R P I 2 19d 20c Q 4  
 A 2 ANS 21b 22b A 3 ANS and REP 4 22b 23b  
 Q 5 A R I 24b-25a A 4 ANS 25d 26c Q  
 11 A 34d 35c Q 13 A 5 R 1 66b-67d Q 14  
 A 7 ANS and REP 3 81d 82b AN 84c  
 85c Q 8 A 3 AN 106b-107c Q 19 A 4 AN  
 111 112 A 5 R 2 3 112d 113 A 6 ANS  
 and RE 3 113c 114d Q 22 A R 2 128d  
 130d Q 23 A 5 AN 135d 137d Q 36 A 3 REP  
 4 194c 195d Q 4 A 2 AN and E 1 3 218c  
 219d Q 4 A AN 225d 227 Q 44 A 2  
 239b 240a Q 45 A 2 P 2 242d 244 A 3  
 244a d A 5 N 245 247 Q 46 A I REP 6  
 250a 252d Q 52 A 3 AN 280a d Q 63 A 8  
 REP I 332c 333b Q 65 A 3 341 342b  
 Q 5 A I R 378b 379 Q 8 A 3 R I

- 433c 434c A 4 ANS 434c-435c Q 87 A 2 EP  
 3 466c-467b Q 88 A 3 REP 472c-473a Q 90  
 A 3 482c-483a H 103 A 6 532b-533a Q 104  
 A I ANS 534c 536c A 536c 537b Q 105 A I  
 REP 3 538d 539c A 5 AN and REP 3 542a  
 543b Q 112 A I ANS 571d 573a Q 114 A 3  
 ANS 583b d Q 115 AA I 2 585d 588c Q 118  
 A REP 3 601c 603b PART I Q I A 2 ANS  
 610b 611b Q 46 A I AN 813b 814a  
 20 AQUINAS *Summa Theologiae* PART I Q 66  
 A 6 REP 3 80c 81b Q 112 A I REP I-3 356  
 357b ART II Q I A 7 REP 3 385c 387a  
 PART III Q 6 A 5 ANS 744a d Q 7 A I REP 3  
 745d 746c A 7 REP I 750 d Q 18 A I R  
 810a 811 Q 19 A I AN and R P 2 816a 818b  
 Q 6 A I 858c 859d A 5 ANS 862b 863a  
 Q 64 A 5 874a d A 8 R P I 876c 877c ART  
 III SUPPL Q 10 A 3 ANS 897d 900d Q 74 A 3  
 REP 927c 928d Q 6 A I RE 1 939d 941a  
 A 2 941b 942b Q 80 A I REP I 956c 957c  
 21 DANT *Divine Comedy* PARADISE II [II -  
 148] 109 b  
 22 CHAUCER *Tale of Melibee* par 37 417b  
 23 HOBBS *Leviathan* PART I 78 d 79d  
 80a  
 28 GALILEO *Two New Sciences* FIRST D Y  
 135c 136b  
 28 HARVEY *On the Animal Generation* 390 d  
 416b c 426a-429b 442c 443c 445c 447a b  
 31 DESCARTES *Discourse* PART V 52a d /  
*Meditations* I 81d 89 esp 84b 85 87b-88c  
 / *Objections and Replies* 110a 112a esp 111d  
 112 120 123a DEP II IV 130b AX O I V  
 131d 132a AX OM VII 132b PROP II 132  
 158b 161d p 35 m 212a 213b d  
 31 SPINOZA *Ethics* ART D I 355a AX OM  
 3 5 355d PROP 3 356a PROP 29 364a  
 366c PROP 33 367b 369a PROP 36 369b  
 APP N IX 369b-372d PART II LEMMA 3  
 378d 379a PROP 48 H MON T 391 PART I  
 D P - 3 395d 396 PRO I 3 396 398  
 PART IV PREF 422b d-423c  
 33 PASCAL *Pensées* 5 261a b  
 35 LOCK *Human Understanding* g BK II CH XXI  
 ECT I-4 178b-179c CH XX 32 T II 203c d  
 CT XXV SECT I 217a d  
 35 BAKER *Human Knowledge* CT 25 33  
 417d 419a passim  
 35 HUME *Human Understanding* s CT III DIV  
 18-s T V II DIV 74 457-484 passim p  
 SE T VI DIV 6 477a s T X 497b 503c  
 SP DIV I 5 498d-499a  
 42 KANT *Pure Reason* H 63b 67d 68b [f i]  
 76c 83b esp 81c d 95a d 140b d 145 177b  
 179b 187c 188 214b d [f i] / *Practical  
 Reason* 311d 314d 334b 337a 339a b /  
*Judgement* 577 578a  
 49 DARWIN *Origin of Species* 9b 10d / *Descent  
 of Man* 285b c  
 51 TOLSTOY *War and Peace* K X 405a b  
 EPILOGUE II 675 -696d  
 54 FREUD *General Introduction* 588c 589a

(5a The nature and types of order, nucleus and exclusion, success and co-existence, priority and posteriority, and simultaneity)

5a(2) The order of goods or of means and ends, the order of loves

OLD TESTAMENT *1 Kings* 3:5-14 ~ (D) IIIA gs 3:5-14

NW TESTAMENT *Matthew* 13:44-46 / *Philp* 3:7-16

6 HERODOTUS *History* BK I 6c-8a

7 PLATO *Lysis* 23a-c / *Euthydemus* 69a-71a / *Symposium* 165b-167d / *Meno* 83b-184c / *Gorgias* 262a-264b / *Republic* BK II 310c-d BK VII 401b BK IX 421a-427b / *Timaeus* 465d-466a / *Phaedrus* 635b-639a-c / *Laos* BK I 643c-644a BK II 656d-658c BK III 674b BK V 687c-688c 689c-690c 691d 695a BK IX 751c

8 ARISTOTLE *Poetics* BK II CH 22 [68-25<sup>b</sup> 89d-90a] / *Topics* BK III CH 1-4 162a-166b / *Metaphysics* K V CH 2 [1013-32<sup>b</sup> 533c [1013<sup>b</sup> 25-8] 533d-534a]

9 ARISTOTLE *Ethics* K I CH 2-3 339a-d CH 4 [95-3 29] 340b-c CH 5 [95-13] CH 7 [1097<sup>b</sup> 22] 340d-313a K I CH 8 354a-d BK I CH II 14 403c-406c K X CH 6-7 430d-432c / *Politics* BK CH I [52-1-6] 445a BK I CH III 480-481b K I CH [3-3 2<sup>b</sup>] 527a-c CH 13 [1331<sup>b</sup> 24 38] 536b [1342 8-27] 536d-537a CH 14 [333 7 37] 538 II / *Rhetoric* K I CH 7 604c-607d

12 EPICTETUS *Discourses* K II CH 19 163a K I H 14 189d

12 AURELIUS *Meditations* K V SECT 16 271c-d

14 PLUTARCH *Solon* 74c-75c / *Pericles* 122a

17 PLOTINUS *Enneads* TR IV 12b-19b esp CH 2 7 12d-16a CH 14 6 18a-19b / *Second* *Ennead* TR IV c1 5 74d-75b

18 AUGUSTINE *Confessions* 10:5 BK II P 10 14 11 12b *City of God* BK VII CH 8-9 270-271a BK X 633a-634a BK XII CH 8 340d-347b BK X c1 22 416c K XIX CH 13 507a 511 CH 17 516d-523a c1 2 523d-524a / *City of God* K 13-5 f 25b-626 22 629b-630a CH 3 33 633b-634b CH 35 634c-d

19 AQUINAS *Summa Theologiae* PART I Q 3 A 1 14b-15b A 2 15 16a Q 5 A 6 27c 28b Q 6 A 2 28d 29c PA III Q 1-5 609a-643d Q 20 AA 1 4 712a-715b

20 AQUINAS *Summa Theologiae* PART II Q 49 A 1 2b-4a Q 1 4 A 4 REP 1 373 d

21 DANTON *Divine Comedy* PURGATORY XVII [8]-XV [15] 79b-80c PARADISE XXV [1-69] 145d-146c

22 CHAUCER *Tale of Milieu* 401a-432a

23 HOBBS *Leviathan* PART I 62a PART II 155b-c PART III 237d

30 BACON *Advancement of Learning* 71a-72c 73d-74a 75d-76a 91d-92b

31 SPINOZA *Fines* PART I APPENDIX 306b 372d PART IV PREF 422b-d 424a APP 1 V 447c

33 PASCAL *Provincial Letters* 94a-97a / *Pensées* 505 261a H 103 326b-327a

35 LOCKE *Human Understanding* BK II CH III SECT 5-53 191d-192b SECT 55-56 192c-193b SECT 62 194c-d SECT 7 198a-c

42 KANT *Pure Reason* 235a-b 238c-2 9a / *Fundamental Principles of Metaphysics of Morals* 259a-257c-d 266a-267d 268b-271d-2 9d / *Practical Reason* 316a-317d 327d-329a / *Principles of Metaphysical Elements of Ethics* 371 / *Judgment* 478a-479d esp 478a-b 55 d [fn 2] 584d-587a 588b [fn 1] 592a-594b-595d esp 595a-d

43 FEDERALIST NUMBER 23 85a-87a passim esp 85b-c NUMBER 41 132b

43 MILL *Utilitarianism* 445a-447b 448a-450a 461c-463

44 BO WELLS *Johnson* 378a-b

46 HEGEL *Philosophy of Right* PART I par 61 27b-c PART II par 12 44a PART III par 94 98b-d ADDITIONS 38 122c-d / *Philosophy of History* INTRO 168a-d PART II 267 b PART II 307b-308a PART IV 348b-c 363b-c

48 MELVILLE *Moby Dick* 213b-214b

52 DOSTOEVSKY *Others* 14a-15a 199b-204b esp 164b-165a

53 JAM *Principles* 14b-15a 199b-204b esp 202-203a

5a(3) The order of quantities, the types of proportion

8 ARISTOTLE *Physics* BK VII CH 4 330d-331a / *Metaphysics* BK V CH 6 [10<sup>b</sup> 31] 53 b CH 13 541b-c CH 15 542 543a BK V CH I [05<sup>b</sup> 15-10<sup>b</sup> 39] 579 580a CH 5 583a-c CH 6 [105<sup>b</sup> 33 105, 16] 584b-c BK VII CH 2 [1077<sup>b</sup> 24 30] 608c CH 6-9 611d-618c PA III pass II / *Politics* BK V CH I [3<sup>b</sup> 29-31] 503a

11 EUCLID *Elements* BK V 81 98b BK V PROP 23 117 b K VII DEFINITIONS 20 127b

11 NICOMACHUS *Arithmetic* BK I-II 821d-831d BK II 841c-848d

16 KEPLER *Harmones of the World* 1078b-1019a

19 AQUINAS *Summa Theologiae* PART I Q 13 A 7 AN 68d-70d

31 DE CARTES *Discourse* PART II 47c / *Geometry* 295a-353b esp BK I 295a-298b

34 NEWTON *Principles* BK I LEMMA II SCHOL 31b-32a

38 ROUSSEAU *Social Contract* BK III 40 b-408b passim

42 KANT *Pure Reason* 73c-d / *Judgment* 49 a-498b

50 M *Capitulum* 19d-25d passim esp 19d-20b 25a-d

53 J *Principles* 551a-b

## 5a(4) The order of the kinds hierarchy species and genus

7 PLATO *Statesman* n 582d 583c 594a 595a8 ARISTOTLE *Cat. gories* CH 5 [2<sup>b</sup>6-3 5] 6c 7b CH 13 [14<sup>b</sup>32 15 12] 20c d / *Topics* BK IV CH 2 [123 13-19] 171c BK VI CH 4 [41<sup>b</sup>15-34] 195a b / n 5 190b d / *Physics* BK IV n 3 [210 17 19] 289a / *Metaphysics* BK V CH 5 545b-c BK VII CH 10-11 558a 561a K VIII CH 6 569d 570d BK X CH 8-9 585b 586c9 ARISTOTLE *History of Animals* BK VIII CH I [588 4-17] 114d 115a / *Parts of Animals* BK I CH 2-4 165d 168c11 N COMACHUS *Aruhmēt* BK I 813a U17 PLOTINUS *F. urth E. nead* TR III CH 2 142a 143b19 AQUINA *S. mma The logica* PART I Q 3 A 5 ANS 17c 18b A 6 REP 2 18 19 Q 13 A 7 AN 68d 70d Q 15 A 3 REP 4 93b 94a Q 28 A 1 ANS 157 158d Q 29 A 2 REP 4 163b-164b Q 30 A 4 ANS 170 171b Q 47 A 2 AN 2 7b-258c Q 5 A 2 REP 1 270a 272 A 4 273b-274b Q 66 A 2 REP 2 345d 347b Q 75 A 7 384d 385c Q 76 A 3 AN and RE 4 391a 393a Q 77 A 1 REP 1 399-401b A 4 REP 1 403 d Q 85 A 3 AN 455b-457a A 4 ANS 457 d Q 88 A 2 E 4 471c 472c A T I Q 18 A 7 REP 3 698 699c Q 23 A 1 AN 723 724 Q 35 A 4 ANS 774d 775d A 8 ANS and RE 3 779c 780c20 AQUINAS *S. mma Theologica* PART I Q 54 A 1 R P I 22d 23d Q 61 A REP 54d 55c Q 72 A 7 ANS 117a 118a PART III Q 2 A 1 ANS 710a 711c35 LOCK *Human U. derstandi. g* K I CH I I S CT 6-9 255 256c K VI CT 32 277c 278b SECT 36-41 279a 280b38 ROUS AU *Ineq. luy* 341b 342b42 K. NT *Pur. Rea. n* 193a 200c p 196b-198d49 D. RW N *O. gi. f. Spect. s* 30d 31b 64 207a 208a 210b-211b 238b 241d 242a53 JAM. *Psych. logy* 870b 871a

## 5b The orde of the unis er e or of n ture the hierarchy of beings

APO RYMA *Wisdom f. Solom.* 1:20-(D) OT *Book of W. dom* 11 I5 EURIPIDES *Pl. e. ut. n. M. idens* [5 8-548] 382 d5 ARISTOPHANES *Birds* [68<sup>b</sup>7-703] 551b c7 PLATO *Symposium* 155d 157a / *G. reg. as* 284 285a / *Timae. s* 446d-477a c / *Ph. l. bus* 618b-619d8 ARISTOTLE *Inerpr. s. ion* CH 13 [23 18 6] 35b c / *Physics* K CH 8-9 275d 278a BK VI CH I [5 5 3] 335d 336 / *H. ens* K CH 2 359d 360d M n 9-0 382b 383a c I 383b-384 K III n [30<sup>b</sup> 6-301<sup>a</sup> 2] 392 / *Generat. d. Corrupt. on* BK c I 3-5 430c-433d CH 9-1 436d 441 c / *Met. physics* K I CH 3 [98<sup>a</sup>4<sup>b</sup> 1502d CH II 505b 506b CH 7 [988 34<sup>b</sup> 5] 506c CH 9 508c 511c BK V n CH 3 [1043<sup>b</sup>33 1044 11] 568b M BK X CH 8 [1065<sup>b</sup>2 4] 593d BK X I CH 6-8 601b 605a CH II [075 12 24] 605d 606a BK XIV CH 3 [090<sup>b</sup>14 1] 623b / *Soul* K II CH 2 [413 20-4] 643b K III CH II [433<sup>b</sup>32-434 9] 666d9 AR. TOTLE *History of Animals* BK VI CH I 114b d 115b / *Part of Animals* BK I CH I [641<sup>b</sup>13-29] 164c d CH 5 [644<sup>b</sup> 2-645 26] 168c 169a BK IV CH 5 [681 12 14] 211d CH 10 [686<sup>b</sup> 3 35] 218b-c / *Generation of Animals* BK CH I [731<sup>b</sup>24 33] 272a b / *Polit. s. BA* C 5 [1254<sup>a</sup>24 35] 447d 448a BK VII CH 4 [1326<sup>a</sup>29 35] 530b-c12 LU. RETIUS *N. tur. f. Thi. gi* BK I [418 448] 66c BK II [167-183] 17a b [94 307] 18d 19a [569-580] 2b [865-930] 26 d [043 1174] 28a 30a c K V [146-234] 63a 64a [783-836] 71b 7 a12 E. ICTETUS *Discou. ses* BK II C I 8 146a b K IV CH 7 234b12 AUR. LIUS *Medita. s* BK II S CT 9 257d BK IV S CT 3 4 263b 264a SECT 40 267 b ECT 45 46 267b c K V S CT 8 269d 270b SECT 16 271 d SECT 30 273a BK I S CT I 274a ECT 9 274b SECT II 274 S CT 36 277 SECT 38 277 d S CT 40-44 277d 278c BK VI I ECT I 280c SECT 75 282b BK VIII SECT 6-27 287c BK IX SECT 9 292b d BK X S CT 6 297a b BK XI S CT 18 304b c16 KEPLER *Harmonies of the World* 1023b 1080b17 PLOTINUS *S. nd Ennead* TR I CH 7 44c 45a CH 13 46c-47b CH 18 49c 50a / *Fourth E. nead* TR V CH 0 163a c TR IV 205 207a M / *F. fish En. ead* TR III 214c 215 TR X CH 12 4 251a d18 AUGUSTIN *Conf. s. n* BK VII par 16 23 48c 50 / *City f. God* BK VI CH 22 333d 334c K XII CH 2-5 343c 345b K XIV CH 11 17 516d 523a19 AQUINAS *Summa Theol. gica* PART Q 2 A 3 12 14a Q 3 A ANS 14b 15b A 2 AN 15 16a Q 5 A 5 ANS 26c 27c Q 1 A 3 ANS 49a c Q 3 A 7 ANS 68d 70d Q 8 A 3 ANS 106b 107 Q 9 A 5 R P 2 112d 113c A 8 116a d Q 21 A 1 R P 3 124b 125b Q 23 A 5 R 3 135d 137d A 7 AN 138d 140 Q 4 A 1 R P I 224b-25d A 3 227 M Q 47 256a 259a Q 48 A M 5 59b 260 A 2 AN and R M 3 260 261b Q 50 A 1 ANS and RE 269b 270a A REP I 270a 272a A 4 273b 274b Q 57 A 1 ANS 295 d Q 61 A 3 4 316 317c Q 63 74 339a 377a Q 75 A REP I 378b-379 A 7 384d 385 Q 76 A AN 385d 388c A 3 ANS 391 393a A 6 R 2 396a d Q 77 A 401b-d A 4 P 403 d Q 88 A 2 R 4 471-472 Q 93 9 528a 608d PA Q 4 A R 612 613 A 8 615a Q A 5 K 3 618d 619 Q 22 A 2 R 721 722

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## CROSS REFERENCES

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and for the conception of the relation between creatures and God as partly real and partly  
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Another consideration of correlative terms see OPPOSITION 1a

The theory of proportionality or analogical similitude see SAME AND OTHER 3b and for the  
applications of analogy and proportion in metaphysics and mathematics see IDEA 4b(4)

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## ADDITIONAL READINGS

Listed below are works not included in *Great Book of the Western World* but relevant to the  
 idea and topics with which this chapter deals. These works are divided into two groups

- I Works by authors represented in this collection  
 II Works by authors not represented in this collection

For the date place and other facts concerning the publication of the works cited consult  
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## Chapter 79 RELIGION

### INTRODUCTION

**ARGUMENT** is unprofitable—worse than that unintelligible—when opponents do not share some common ground. Between the complete skeptic who denies reason's competence and the philosopher or scientist who appeals to it, no common ground exists. Between the man who obeys the rule not to contradict himself and the man who finds nothing repugnant in answering Yes and No to the same question, there can be no argument. There is an issue between them, but the position each takes reduces the other to silence.

Lack of a common measure for judging opposed views tends to render them incommunicable to one another. For men to be in this plight is the exception in science and philosophy, but it seems to be the typical situation where the basic issues of religion are concerned. Of all subjects the most controversial, religious issues seem to be the least capable of being settled by controversy. No divisions among men—certainly not those which separate philosophers or scientists—are as unbridgeable as the chasm between the faithful and those they call infidels, between Jew and gentile or Christian and pagan. Faith and lack of faith, or the diversity of faiths, seem to render certain questions as imponderable as they are weighty.

On the definition of religion itself, the deepest issue lies between those who conceive it as having a supernatural foundation in God's revelation and authority, and those who think of religion as having a purely natural origin in certain human tendencies, which makes it no different from philosophy and science as an element of culture. But religion can be supernatural only for those whose faith declares it to be so. Those who deny that it is supernatural may offer many reasons for thinking so, and try in many ways to explain away faith. What they all come to is that it is an illusion to suppose faith

is God's gift rather than man's own will to believe. To the man of faith this only means that his critic lacks the gift of faith or the will to have it.

Many consequences follow from this unarguable difference concerning the meaning of religion. Religion to the man of faith usually means much more than the acceptance of a creed. It means acts of piety and worship, recourse to prayer, the partaking of sacraments, the observance of certain rituals, the performance of sacrifices and purifications. It means rendering to God what is His due, obeying His commands, beseeching and gaining the help of His grace, whereby to lead a life which shall seem worthy to Him. When religion is conceived as nothing more than a set of beliefs which men have adopted, it is restricted to one part of life. It may or may not involve action as well as thought, but it is not the fabric of a whole life. It does not qualify every other part of it. It does not demand that inner devotion and external conduct constitute the practice of a man's belief if he is to avoid hypocrisy.

According to this difference in the conception of religion as supernatural or natural, we seem to hold incommunicably different views of religious belief, of revelation, miracles, and prophecies. But those who agree that religion is not man-made, that it requires in some form divine authority and inspiration, do not all have the same faith, worship in the same way, or conform to the same rites. The issue therefore between men of different faiths—men who live according to the rules of different religious communities—is almost as difficult as that between the religious and the irreligious.

In the western tradition, the plurality of religions necessarily raises a question of truth and falsity for any religionist whose faith exclu-

the possibility of several equally true religions. Idolatrous and superstitious heretical and chismatic are epithets which draw their special significance from controversies about religion and religions. The word pagan as Gibbon points out comes to mean idolatry or the worship of false gods. The Latin Christians he says bestowed it on their mortal enemies the Mahometans. The Mohammedans in turn held the view according to Gibbon that all except themselves deserved the reproach of idolatry and polytheism. The charges of idolatry and superstition occur also in the conflict between Jew and Christian between Protestant and Catholic countered often by charges of infidelity or heresy and schism.

Quite apart from the general problem of church and state with its issues of political toleration and freedom of worship the very meaning of religion raises the question of tolerance in its most acute form. It is not a question of political rights and liberties but of being right or wrong in one's religious beliefs and acts. To the extent that the communicants of one religion regard themselves as believing what God has revealed to them and to the extent that they hold their religious practices to be prescribed by divine law they are not free in conscience. It seems to entertain contrary beliefs and practices as conceivably true alternatives.

The conflict between men of diverse faiths alike in their understanding of faith as divinely inspired somehow appeals beyond any human decision to God himself for judgment. The controversy between men of any religious faith and those who treat such faith as a purely human prejudice seems to be even less susceptible of resolution by the ordinary processes of discourse.

IF THESE OBSERVATIONS are accurate and just the materials of this chapter cannot be assembled dialectically—either as opposed views or as belonging together—simply by reference to the content of the various opinions which can be found in the great books. In this chapter as in no others except perhaps those which treat of matters connected with religion—such as GOD IMMORTALITY SIN and THEOLOGY—it seems necessary to pay some attention to the opinion of the author as well as to the opinion and

even in some cases to the community or culture in which the opinion arises. It is not as necessary for example to know whether the man who writes about virtue is himself virtuous as it is to know whether the man who writes about religion is religious and to know furthermore in what sense he conceives himself as being religious and what religion he espouses.

The distinction between sacred and profane and between religious and secular applies to books as well as to other things. In the tradition of the great books only one book is set apart as sacred. None of the writers included in this set regard the Koran as sacred scripture though Gibbon as an historian reports the Mohammedan belief in the Koran. Mohammedans believe that the Koran is the word of God revealed to His one and only prophet as Jews believe that the Old Testament is divinely inspired writing and Christians believe in both Testaments as Holy Writ.

But though the Bible is the traditionally sacred book of the west it is not read as such by all who write about it. The historian or the philosopher who is not himself a religious Jew or Christian may acknowledge the belief of others without sharing it. He reads the Bible as a collection of human writings which have exercised an unparalleled influence upon western culture. Whatever the merit of these writings as wisdom history preaching or poetry they do not command a special kind of reading unless they are distinguished from all others by being the word of God not man. Controversies over interpretations of the Bible may thus begin with each side begging the main question in issue. Is the Bible sacred scripture or is it no different in kind from the poetry of Homer and the sayings of the Greek wise men?

The two ways of reading the Bible are incommensurable. If the Bible is not sacred a critical reading may be expected to disclose inconsistencies in it and many of the things it says may be questioned in fact or in principle. But if though humanly recorded it is the repository of divine revelation then it has an authority which puts it above questioning though not beyond the need for interpretation.

There is one sort of opposition says Locke which challenges the legitimacy of our assent upon bare testimony whether the thing

proposed agree or disagree with common experience and the ordinary course of things or no. The reason whereof is because the testimony is of such a one as cannot deceive nor be deceived and that is of God himself. This carries with it an assurance beyond doubt evidence beyond exception. This is called by a peculiar name revelation and our assent to it faith which absolutely determines our minds and as perfectly excludes all wavering as our knowledge itself and we may as well doubt of our own being as we can whether any revelation from God be true. So that faith is a settled and sure principle of assent and assurance and leaves no manner of room for doubt or hesitation. Only we must be sure that it be a divine revelation and that we understand it rightly.

Locke seems to be putting two qualifications upon his remark that the bare testimony of revelation is the highest certainty. The first concerns our assurance that we are not mistaken in accepting something as revealed. The second concerns the correctness of our understanding of that which we take to be God's word.

On the first point Hobbes though he says that faith is a gift of God which man can neither give nor take away by promises of rewards or menaces of torture also says that faith depends only upon certainty or probability of arguments drawn from reason or from something men believe already. Faith does not come by supernatural inspiration or infusion but according to Hobbes by education discipline correction and other natural ways by which God worketh them in his elect at such time as he thinketh fit. The object of faith is not God but the men whom God has appointed to instruct us belief which Hobbes distinguishes from faith goes beyond faith to the acceptance as true of what they say. Consequently Hobbes writes when we believe that the Scriptures are the word of God having no immediate revelation from God himself our belief faith and trust is in the Church whose word we take and acquiesce therein.

On this same point Aquinas gives a different answer. He distinguishes between the material and the formal aspects of the object of faith. As in the object of science so in the object of faith there is that which is known and is the

material object so to speak and that whereby it is known which is the formal aspect of the object. Thus in the science of geometry the conclusions are what is known materially while the formal aspect of the science consists in the means of demonstration through which the conclusions are known. Accordingly if in fact we consider the formal aspect of the object it is nothing else than the First Truth. For the faith of which we are speaking does not assent to any thing except because it is revealed by God. The articles of religious faith may be drawn from the content of Holy Writ but that Holy Writ is the revealed truth of God must first be accepted by an act of faith. Aquinas seems to be meeting Locke's point by saying that it is faith itself which makes us sure that the propositions to which we assent by faith are the matter of divine revelation.

ON LOCKE'S OTHER point concerning the rightness of our interpretation of Scripture Locke himself remarks that though everything said in the text be infallibly true yet the text may be nay cannot choose but be very fallible in the understanding of it. Nor is it considered that the will of God when clothed in words should be liable to that doubt and uncertainty which unavoidably attends that sort of conveyance. From which he concludes that since the precepts of natural religion are plain and very intelligible to all mankind and seldom come to be controverted and other revealed truths which are conveyed to us by books and languages are liable to the common and natural obscurities incident to words, methinks it would become us to be more careful and diligent in observing the former and less magisterial positive and imperious in imposing our own ideas and interpretations of the latter.

That Scripture is difficult to interpret and subject to various interpretations Augustinus also acknowledges but he differs somewhat from Locke concerning the task or duty which that fact imposes upon the religious man. Let no one then go on bothering me "Augustine writes with such words as Moses did not mean what you say he meant what I say. If he said to me How do you know that Moses meant by these words what you say? — I should

take the question with complete calmness. But when he says "He did not mean what you say," he meant what I say; yet does not deny that what each of us says is true. Then "O Life of the poor! O my God, in whose bosom is no contradiction, rain down the gift of moderation upon my heart, that I may hear such talk with patience." For what they say, they say not because they are godly men and have seen it in the mind of Your servant Moses; but because they are proud men, it is not that they know the opinion of Moses, but that they love their own opinion, and this not because it is true but because it is their own.

Confronted by a variety of interpretations each of which may be true, Augustine remarks how foolish it is, in such a flood of true meanings, rashly to assert that Moses intended one or the other of them. If I had been Moses, if I had been the same as he and You had given me the book of Genesis to write, I should have wished that You would grant me such skill in writing such an art for the construction of what I had to say, that not even those who can not yet grasp how God creates would reject my words as too much for their strength, and again that those who can grasp so much would find fully contained in the few words of Your servant whatever truths they had arrived at in their own thinking. Those who thirst for truth and not for vanity, honor the human dispensers of God's revelation. Augustine thinks by believing that when under God's inspiration they wrote these words, they had in mind whatever is most excellent in them by the illumination of truth and their fruitfulness for our profit.

Thus when one man says to me, "Moses meant what I think," and another "Not at all, he meant what I think," it seems to me Augustine declares that the truly religious thing is to say, "Why should he not have meant both, if both are true, and if in the same words some should see a third and a fourth meaning, and any other number of true meanings, why should we not believe that Moses saw them all, since by him one God tempered Sacred Scripture to the minds of many who should see truths in it yet not all the same truths."

Augustine's position combines belief in the truth of Scripture which is a consequence of

the faith that it is God's word, with latitude of interpretation in determining what that truth is appealing, here to the ordinary standards of what seems to be true to the thinking mind. In the course of commenting on Augustine's own interpretation of certain passages in Genesis, Aquinas summarizes what he takes to be Augustine's two rules. The first is to hold the truth of Scripture without wavering. The second is that since Holy Scripture can be explained in a multiplicity of senses, one should adhere to a particular explanation only in such measure as to be ready to abandon it if it be proved with certainty to be false, lest Holy Scripture be exposed to the ridicule of unbelievers, and obstacles be placed to their believing.

As THE QUESTION whether the Bible is sacred writing affects the way it is to be read, so the distinction between religious and secular writing seems relevant to what the great books have to say about religion.

In the pagan tradition, for example, Herodotus in his *History* reports and discusses a great variety of religious doctrines and practices as characteristic of the peoples he visits or inquires about. There seems to be no indication that Herodotus is judging the truth or falsity of these various religions, either by reference to their reasonableness or from convictions born of his own adherence to one of these religions as against all the rest. For the most part, he is writing about religion rather than religiously, with the possible exception of those passages in which he expresses his own views, discussed in the chapter on PROPHECY, on the oracles, omens, and portents which reveal the will of the gods.

In contrast, the tragedies of Aeschylus, especially the Oresteian trilogy, are religious poetry comparable to Dante's *Divine Comedy* and Milton's *Paradise Lost*. These are not books about religion, as in a sense the great poem of Lucretius *On the Nature of Things* is about religion—a passionate attack on religion by a man who is not religious. It may be thought that the aim of Lucretius is to purify religion when he wishes to banish all belief in things degrading to the gods and inconsistent with the peace, so that men can approach the sanctuaries of the gods with calm breast and with tranquility of mind. But even a person who

er be able to carry us beyond the usual course of experience or give us measures of conduct and behavior different from those which are furnished by reflections on common life

Those who like Marx and Freud regard religion as a social imposture or the response to a neurotic need not only impute falsity or worse to the traditional religions of the west they also tend to reject natural religion Science is enough—for truth's sake for the conduct of life for society's welfare Yet in commenting on the following lines from Goethe

He who has Science and has Art  
Religion too has he  
Who has not Science has no Art  
Let him religious be!

Freud says that on the one hand these words contrast religion with the two highest achievements of man and on the other they declare that in respect of their value in life they can represent or replace each other In these terms Freud thinks the religion of the ordinary man is justified—the only religion that ought to bear the name If a man does not have science or art to live by he must have religion for life as we find it is too hard for us and we cannot do without palliative remedies

It is the religion of the philosophers and the theologians which Freud questions He criticizes the philosophers for trying to preserve the God of religion by substituting for him an impersonal shadowy abstract principle and he challenges the grounds on which he thinks the theologians hold it to be an impertinence on the part of science to take religion as a subject for its investigations They deny that science has any competence whatsoever to sit in judgment on religion If we are not deterred by this brusque dismissal Freud declares but inquire on what grounds religion bases its claim to an exceptional position among human concerns the answer we receive if indeed we are honored with an answer at all is that religion cannot be measured by human standard since it is of divine origin and has been revealed to us by a spirit which the human mind can not grasp It might surely be thought he continues that nothing could be more easily refuted than this argument it is an obvious *petitio principii* a beginning of the question

The point which is being called in question whether there is a divine spirit and a revelation and it surely cannot be a conclusive reply to say that the question cannot be asked because the Deity cannot be called in question.

Marx takes a similar view of the theologians According to him the theologians be the question in much the same way as do the classical economists for whom there are only two kinds of institutions those of art and those of nature Feudal institutions are artificial institutions those of the bourgeoisie are natural institutions In this Marx says they resemble the theologians who establish two kinds of religion Every religion but their own is an invention of men while their own religion is an emanation from God

Plato on the other hand execrates those who think that all religion is a cooking up of words and a make believe It is almost as if he had Marx and Freud in mind when in the *Laws* the Athenian Stranger carries on the discussion of religion in terms of the distinction between nature and art and refers to those who

would say that the Gods exist not by nature but by art and by the laws of states which are different in different places according to the agreement of those who make them They are the very same people who hold that the honorable is one thing by nature and another by law and that the principles of justice have no existence at all by nature

IN PLATO'S VIEW the justice of the state and its laws must be founded not only on nature rather than art but also upon religion and a firm belief in the gods The Athenian Stranger answers those who think it is dreadful that [we] should legislate on the supposition that there are Gods by saying why it is a matter of no small consequence to prove that there are Gods and that they are good and regard justice more than men do The reason he gives is that no one who in obedience to the laws believed that there were Gods ever intentionally did any unholy act or uttered an unlawful word but those who did must have supposed one of three things—either that [the Gods] did not exist which is the first possibility or secondly that if they did they took no care of man or thirdly that they were easily appeased and turned and

from their purpose by sacrifices and prayers That is why the demonstration of the existence of the gods would be the best and noblest prelude of all our laws

Rousseau's legislator like Plato's is also concerned with the role which religion plays in the foundation and life of the state But the question Which religion? arises at once for Rousseau as it does not for Plato who can treat the nature of the gods and the nature of the state as equally within the province of the political philosopher But for Rousseau living in a Christian civilization the political philosopher cannot approach the subject of religion without being confronted by the theologian He finds it necessary therefore to distinguish between a revealed religion like Christianity and the natural or civil religion of the citizen

Christianity says Rousseau not the Christianity of today but that of the Gospel which is entirely different is the religion of man not of the citizen So far from binding the hearts of the citizens to the State it has the effect of taking them away from all earthly things I know of nothing more contrary to the social spirit We are told that a people of true Christians would form the most perfect society imaginable I see in this supposition only one great difficulty that a society of true Christians would not be a society of men The country of the Christian is not of this world

What the state needs Rousseau goes on to say is a purely civil profession of faith of which the Sovereign should fix the articles not exactly as religious dogmas but as social sentiments without which a man cannot be a good citizen or a faithful subject He then enumerates what he calls the dogmas of civil religion which ought to be few simple exactly worded without explanation or commentary such as the existence of a mighty intelligent and beneficent Divinity possessed of foresight and providence the life to come the happiness of the just the punishment of the wicked the sanctity of the social contract and the laws

Montesquieu takes the diametrically opposite view With regard to the true religion he writes I have never pretended to make its interests submit to those of a political nature but rather to unite them The Christian religion which ordains that men should love each

other would without doubt have every nation blessed with the best civil the best political laws because these next to this religion are the greatest good that men can give and receive Montesquieu meets the argument that true Christians cannot form a government of any duration by saying that the more men believe themselves indebted to religion the more they would think due to their country The principles of Christianity deeply engraved on the heart would be infinitely more powerful than the false honor of monarchies than the human virtues of republics or the servile fear of despotic states

ANY CONSIDERATION of the political significance of religion tends to lead into the controversy over the relation between church and state Three main positions seem to be taken one which calls for the integration of church and state one which calls for a subordination of either state to church or church to state and one which insists upon the autonomy of each as a basis for their relation to one another or carries separation even further to the point of complete divorce

The theocratic state of the Old Testament represents the Jewish version of the first position distinguished by the fact that the priesthood was in the service of the king Hobbes defines a Christian commonwealth in almost parallel terms It is indifferent whether it is called a church or a state because it is a company of men professing Christian religion united in the person of one sovereign It follows Hobbes argues that there is on earth no such universal church as all Christians are bound to obey because there is no power on earth to which all other commonwealths are subject *There are Christians in the dominions of several princes and states but every one of them is subject to that commonwealth whereof he is himself a member and consequently cannot be subject to the commands of any other person And therefore a church such a one as is able to command to judge absolve condemn or do any other act is the same thing with a civil commonwealth consisting of Christians men and is called a civil state so that the subjects of it are men and a church for that the subjects thereof are Christians*



According to Hobbes *temporal* and *spiritual* government are but two words brought into the world to make men see double and mistake their lawful *Sovereign*. There is therefore no other government in this life neither of state nor religion but temporal. Agreeing with Hobbes on the unity of government and the integration of church and state writers like Augustine and Roger Bacon place kings in the service of the priesthood and make the supreme pontiff who governs both spiritually and temporally the only earthly sovereign. Gilson summarizes their view by saying that for them the definition of the Church includes the State and that the church has a universality which embraces the temporal and the spiritual domains alike.

The position of Aquinas is indicated in the *Treatise on Law* in the passage in which he declares that no civil law can be valid or binding if what it commands is contrary to divine law. It is more explicitly developed in his little tract *On the Governance of Rulers*. It is not the ultimate end he writes of an assembled multitude to live virtuously but through virtuous living to attain to the possession of God. Furthermore if it could attain this end by the power of human nature then the duty of a king would have to include the direction of men to this end. But Aquinas holds men attain this end by divine not human power and therefore divine not human government is needed to direct men to their end. Consequently he maintains in order that spiritual things might be distinguished from earthly things the ministry of this kingdom has been entrusted not to earthly kings but to priests and in the highest degree to the chief priest the successor of St. Peter the Vicar of Christ the Roman Pontiff to whom all the kings of Christian peoples are to be subject as to our Lord Jesus Christ Himself. For those to whom pertains the care of intermediate ends should be subject to him to whom pertains the care of the ultimate end and be directed by his rule.

This last statement indicates that Aquinas unlike Augustine and Roger Bacon assigns to the state a subsidiary dominion and to the king a subordinate jurisdiction. The opponent of Aquinas is usually thought to be Marsilius of Padua whose *Defensor Pacis* separates church

and state but subordinates priest to king in a manner which corresponds to the Averroistic subordination of theology to philosophy. Agreeing with both that church and state are distinct Dante agrees with neither on the relation which should obtain between the temporal and the spiritual domains or between civil and ecclesiastical government.

Whereas Aquinas holds that only man's spiritual end is ultimate and that all temporal ends are intermediate Dante insists that man has two ultimate goals. Man exists for a double purpose he says in *De Monarchia*. Since he alone among beings partakes of both corruptibility and incorruptibility he alone among beings belongs in two final orders—one of which is his goal as a corruptible being the other as incorruptible. Man has two beatitudes or two forms of happiness—an earthly perfection which consists in the complete realization throughout time of the intellectual powers of mankind and a heavenly perfection which consists in the vision of God. These two states of bliss Dante argues like two different goals man must reach by different ways. For we come to the first as we follow the philosophical teachings applying them to our moral and intellectual capacities and we come to the second as we follow the spiritual teachings which transcend human reason according to our theological capacities faith hope and charity.

In terms of this theory of man's two ends and of the distinct spheres of reason and faith or philosophy and civil law on the one hand and religion and divine law on the other Dante formulates his doctrine of the autonomy of state and church. The reins of man's two lives are held by a double driver according to man's twofold end. One is the supreme pontiff who guides mankind with revelations to life eternal and the other is the emperor who guides mankind with philosophical instructions to temporal happiness. Church and state may be related as sun and moon in the sense that the state receives some illumination from the church even about matters within its own jurisdiction but according to Dante the state has its own source of light in reason. Temporal power he maintains receives from spiritual power neither its being nor its power or authority nor even its functioning strictly.

speaking but what it receives is the light of grace which God in heaven and the pope's blessing on earth cause to shine on it in order that it may work more effectively

All these mediaeval theories of what should be the relation between church and state—with the exception perhaps of the doctrine of Marsilius of Padua—conceive religion as having a supernatural source and the church as having a supernatural foundation both being instituted for the sake of guiding man to his supernatural end They differ from one another according to the view they take of man's earthly or temporal goods the power of his reason and the jurisdiction of his laws Their difference according to Gilson verifies the principle that the manner in which one conceives the relationship of the State to the Church that in which one conceives the relationship of philosophy to theology and in which one conceives the relationship of nature to grace are necessarily correlated

These mediaeval theories of church and state persist with certain modifications in modern times But the characteristically modern view of the matter begins with a different view of religion itself Its mediaeval prototype is to be found in the rationalism of Marsilius Within the secular state the church is a purely human institution religion is defended by philosophy for the contribution it makes to the peace of the civil community—or perhaps condemned by the apostles of earthly progress as the opiate of the masses The principle of religious tolerance involves not merely tolerance of religion but tolerance for a diversity of religions and often the complete rejection of all religion

I esteem it above all things necessary writes Locke in his *Letter Concerning Toleration* to distinguish exactly the business of civil government from that of religion and to settle

the just bounds that lie between the one and the other The commonwealth Locke continues seems to me to be a society of men constituted only for the procuring preserving and advancing their own civil interests A church is a voluntary society of men joining themselves together of their own accord in order to the public worshipping of God in such manner as they judge acceptable to Him and effectual to the salvation of their souls

Locke's doctrine of the separation of church and state is reflected in the Constitution of the United States In the form which Jefferson gives it it appears in the declaration that Congress shall make no law respecting an establishment of religion or prohibiting the free exercise thereof Mill carries out the same principles in his attack on Sabbatarian legislation Such laws he thinks exceed the power of civil government They represent an illegitimate interference with the rightful liberty of the individual The notion that it is one's duty that another should be religious is in Mill's opinion the foundation of all the religious persecutions ever perpetrated Hegel on the other hand holds that the state should require all citizens to belong to a church but he points out that a church is all that can be said because since the content of a man's faith depends on his private ideas the state cannot interfere with it

The positions men take on the great issues of church and state thus seem to be determined in part by the diverse conceptions men have of religion This is no less true of opposing views on religious liberty on the treatment of heresy and schism on religious education the missionary calling and the conversion of infidels In the discussion of religion perhaps more than anywhere else the first Yea or Nay seems to determine all other affirmations or denials

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMB *Ilud* BK 11 [265 283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psy hol gy* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left-hand side of the page the letters c and d to the upper and lower halves of the right-hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left-hand side of page 163 and ends in the upper half of the right-hand side of page 164.

**AUTHOR'S DIVISION.** One or more of the main divisions of a work (such as PART BK CH CT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Ilud* BK [265 83] 12d.

**BIBLE REFERENCES.** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) *II Edas* 7 46.

**SYMBOLS.** The abbreviation esp calls the reader's attention to one or more especially relevant parts of a whole reference passage signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Guide to Ideas* consult the Preface.

## 1 Faith as the foundation of religion

OLD TESTAMENT *Isaiah* 7 9—(D) *Isa as* 7 9 / *H bakkuk* 2 4—(D) *Hab* 2 4

NEW TESTAMENT *Matthew* 1 31 32 / *M k* 16 16-8 / *J h* 1 12 3 3 4 18 5 24 6 35 40 47 8 24 1 7 28 1 25 6 12 36 14 14 16 27 20 24-31 / *Acts* 1 43 16-5 33 / *Romans* passage esp 1 6-7 3 21-5 2 9 30-33 1 8-17 / *I Corinthians* 13 2 / *II Corinthians* 1 12 4 1 13-8 5 6-8 / *G l ians* passage esp 2 6-3 27 5 5-6 / *Ephesian* 2 8-9 3 1 / *Philippa* 3 8-9 / *Colossus* 1 2 3 2 5 7 12 / *I Timothy* 1 5 4 1 6 10 12 / *H breus* passage esp 0 22 23 10 38 39 1 1 40 / *James* 2 esp 2 5 2 17 26 / *I Peter* 1 7-9 2 6-7 / *I John* 3 23 5 4-5 9-10

III AUGUSTIN *C n f e s s i o n* BK 1 p r i l I BK vi par 6-8 36 37c / *C r y f God* BK x CH 23 3a c

III AQUINAS *Summa Theologica* ART I Q A 1 3b 4a

20 AQUINAS *Summa Theologica* PART I I Q 62 A 4 AN 62b 63a Q 65 A 4-5 73d 75a Q 66 A 6 80c 81b P T H I Q Q 7 380 416d PART UPPL Q 99 A 4 and R 1083 1084a

21 DANT *Divine Comedy* RA SE XXIV [32-8] 143b

23 HOBBS *Leviathan* PART I 83a b

25 MONTIGN *Essays* 209a 215b passage 238c 239c 293d 294b

30 BACON *Advancement of Learning* 19b c 95d 96c 100b

33 PASCAL *Pensées* 48 252 219a 220a 286- 224a b

35 LOCKE *Tolerant* 3b-4 10 11b

35 HUME *Human Understanding* SECT X DIV 100 496d 497b c CT XII DIV 32 509c

42 KANT *Practical Reason* 344c 349b esp 345c d 347b

44 BOSWELL *Johnson* 395a II 482a

46 HEGEL *Philosophy of History* INTRO 196d 197b PART V 349b 350

52 DO TOV KAT *Beth Shalom* v k v 127b 137 p m

## 1a The nature, cause and conditions of faith in specific objects

N W TESTAMENT *M k* 9 3 29 20-24 / *L k* 8 4 15 / *J h* 2-13 6 29 0 37 39 12 44 46 14 7 1 16-7 2 24 3 / *R m s* p m c p 3 21-5 2 9 30-33 / *I Corinthians* 2 4 / *II Corinthians* 4 3 4 / *G l ians* 3 5 / *I Thessalonians* 13 5 8 / *H b w* esp 4 2 3 / *J m* 2 p 2 7 6 / *I Peter* 7-9- / *I J h* 2 23-24 4 1 3 5-4-5

- (1) *Faith as the foundation of religion 1a The nature cause and conditions of faith its specific objects*)
- 18 AUGUSTINE *Confessions* BK I par 1a b par 17 18 5b d BK III par 6-10 14b-15d BK III par 19- K IV par 1 18b 19c BK V par 12-13 30a BK VII par 23 25 33c 34c K VI par 7-8 36d 37c BK VII par 24 50d 51a BK VIII 52c 61c esp par 29 30 60d 61c BK IX par 14 65a-c par 23 25 68a-c / *City of God* BK X CH 2 299d 300a BK XI CH 2 323a-c BK XIX CH 18 523a BK XXI CH 5 564b-d
- 19 AQUINAS *Summa Theologiae* PART I Q 13a 10c Q 2 A REP 111d 12c Q 12 A 13 61c 62b
- 20 AQUINAS *Summa Theologiae* PART II Q 62 A 3 ANS and REP 61c 62b Q 67 A 3 83b 84d Q 100 A 4 REP 1 253d 255a Q 108 A 2 REP 1 332b 333d Q 110 A 3 REP 1 350a d Q 112 A 5 ANS and REP 2 359c 360c PART II II QQ 1-9 380a-426c
- 21 DANTE *Divine Comedy* PURGATORY III [34-45] 56b PARADISE II [37-45] 108a XIV [62-77] 135d XXIV 142d 144b
- 22 HOBBS *Leviathan* PART I 63b 66a c 78d 80d 83a 84c PART II 149c d PAR III 209b 209d 240a 246a c passim esp 241a 242a
- 25 MONTAIGNE *Essays* 98b-99a 209a c 211b 213a 239b-c 267c 268a 293d 294b
- 30 BACON *Advancement of Learning* 19b c 55b-d 95d 97c 100c / *Novum Organum* K I A H 65 114b-c APH 89 124a d
- 31 DESCARTES *Rules* III 4d 5a / *Meditations* 69a d / *Objections and Replies* 125c 126a 168c 232b 284d
- 32 PASCAL *Provincial Letters* 147b 163 166b passim / *Pensées* 242-245 217b 218b 248 219a 254 256 220a 262 221a 265 90 221b 225a esp 278 282 222b-223b 425 243b 244b 323 264a 343 266a 561-567 272b-273b 585-588 277a BK 619-620 284b 286a 794 796 327b
- 33 LOCKE *Tolerant* on 3b-4a 10c d 15b / *Human Understanding* BK IV CH VII SECT 1 340b c CH XVI 3 CT 14 371b-c CH X 1 SECT 23 24 380b-d BK XVI 380d 384b passim
- 34 HUME *Human Understanding* SECT 1 DIV 101 497b
- 35 FIELDING *Tom Jones* 379c 380a
- 36 MONTAIGNE *On the Spirit of Laws* BK XXV 208a 209a
- 40 GILSON *Deleat a d Fall* 179 181c 186c 191a
- 41 CROMWELL *Declaration of Sentiments* 151d 227d 228a
- 42 KANT *Practical Reason* 179a b 242a 243a / *Practical Reason* 370c 321b 344c 348b esp 347b-c 353a 354d / *Judgement* 599d 600a 604d 606d esp 606a d 607d 609b
- 43 BOSWELL *Johnson* 84d 85a 121c d 129b 394d 395b
- 46 HEGEL *Phenomenology of Spirit* 228d 234d 235c 236a c PAR II 268b-271c

- PART III 290b 292a 307b-308a 311b d 312d 313a PART IV 3 9b-350a
- 47 GOETHE *Faust* PART I [3414 3469] 83b-84b PART II [10113 121] 246b 247a
- 49 DARWIN *Descent of Man* 302b-303d 593b c
- 51 TOLSTOY *War and Peace* BK V 196a 193b
- 52 DOSTOEVSKY *Brothers Karamazov* BK I 11a 15a c esp 11a b 13a d BK II 21b-21d 25-27d BK III 64c 67a BK V 129c 132b BK VI 146b d 170d BK VII 171a 180a esp 1 177b 189a 191a c BK XI 313c 314d 33a 346a BK XII 396d 397a
- 53 JAMES *Psychology* 652a-659a passim 661b 826b-827a

## 1b The sources of religious belief

### 1b(1) Revelation the word of God and divine authority

- OLD TESTAMENT *Genesis* 12 1-9 13 14 15 17 18 21 12 13 22 18 61-62 24 28 10-22 32-33 32 35 15 46 1 4 / *Exodus* 3 4 61-62 28 30 7 1-5 19-20 24 33 34 / *Numbers* 13 14-20-25 / *Deuteronomy* 4 10 15 36 5 8 3 18 18 29-29 31 24 21 / *Joshua* 1 1-9-(D) *Josue* 1 1-9 / *I Samuel* 3-(D) *I Kings* 3 / *I Kings* 3 5 15 9 4 9 19 9-18-(D) *III Kings* 3 5 15 9 1-9 19 9-18 / *Job* 33 14 17 38 1 42 5 / *Psalms* 12 6 119 81-82 103 105 114 116 130-133 141 148-(D) *Psalms* 117 118 81-82 103 105 114 116 130-133 147 148 / *Proverbs* 30 5 / *Isaiah* 6 48 3-8-(D) *Isaiah* 6 48 3-8 / *Jeremiah* 1 26 1-6-(D) *Jeremiah* 1 61-6 / *Ezekiel* 1 3 8 12-(D) *Ezekiel* 1 3 8-12 / *Amos* 7 / *Zachariah* 1-6
- APOCRYPHA *Wisdom of Solomon* 16-26-(D) *OT Book of Wisdom* 16-26 / *Ecclesiastes* 17-6-14-(D) *OT Ecclesiastes* 17 5 12
- NEW TESTAMENT *Matthew* 3 16-17 7-9 10 1 0 26 11-25 27 13 10-23 17 0 21 27 28 18-20 / *Mark* 1 9-11 23 4 1 2 10-23 9-37 11 27 33 / *Luke* 2 25 6 3 21 2 4-1 31 32 8 4 15 9 33 35 10-21 22 12 1 3 / *John* 2 22 3 2 9-12 4 41 42 5 31 47 esp 5 39 9 35 38 10-26-27 12-28 3 15 15 16 9-31 17-6-8 / *Acts* 1 15 16 9 3-8 21-6 16 26 13 18 / *Romans* 1 16-20 10 17 15 4 / *I Corinthians* 2 9-10 13 12 1 7 15 1 2 / *II Corinthians* 12 1-5 / *Galatians* 1 11 17 / *Ephesians* 3 3-9 17 23 3 1-5 17 *Thessalonians* 2 13 / *I Timothy* 4 14 16 / *II Timothy* 3 14 16 / *Hebrews* 4 11 11 / *I Peter* 1 10-12 22 25 / *II Peter* 1 16 25 / *I John* 2 20-21 27 5 7 1
- 18 AUGUSTINE *Confessions* BK II par 7 10b BK VI par 6-8 36c 37c BK IX par 8 12 63 65 BK XI par 2 5 89c 90c BK XIII par 16-18 114d 115c / *City of God* BK X CH 2 299d 300a BK XI CH 2 323b 324a BK XIX CH 18 523a b BK XX CH 1 25 556c / *Christian Doctrine* BK II CH 15 643c 644a

- 19 AQUINAS *Summa Theologica* PART I Q 13a  
10c passim ■ 2 A 13 61c 62b Q 32 A 1 175d  
178a Q 46 A 2 253a 255 Q 68 A 1 ANS  
354a 355c Q 117 A REP 597c 598c
- 20 AQUINAS *Summa Theologica* PART II Q 91  
AA 4-5 210c 212c Q 98 AA 2-6 240c 45b  
Q 100 A 3 ANS 253a d Q 10 A 2 ■ I  
267a 268a PART I Q 1 A 7 REP 3 385c  
387a AA 9 10 388d 390d ■ 2 A 1 ■ I  
391 392a AA 2-4 392a 394b A 10 ANS 399b  
400b Q 1 A ■ 409a d Q 6 A 1 AN 413d  
414c Q 16 A 1 454c 455c PART III ■ 7 A 7  
AN 750a d Q 11 A 6 EP 2 775d 776b 1
- 21 DANTE *Dive Comedie* PURGATORY XXX-  
XXXII 99b 105d passim PARADISE V [73-78]  
112d 113a XXIV [2-14] 143b d XXV [64-96]  
145 b XVI [1-45] 145d 146b
- 23 HOES *Leviathan* PART I 83a b ■ RT II  
137b 138b 160b c PART I 165a 167b 181a  
188a 241a 242a CONC USION 281d 282a
- 25 MONTAIGNE *Essays* 209a c 212a 238 239  
267c 268a 273a b 293d 294b
- 30 BACON *Advancement of Learning* 2c 4c  
19b-c 38a 98a 100b / *Natural History* 203 c
- 31 DESCARTES *Discours de Methode* 43c / *Meditations*  
101 69a d / *Objections and Replies* 168  
169a
- 32 MILTON *Paradise Lost* K VIII [267-318]  
238a 239a BK XII [106-5] 321b 322b [73-  
69] 323a 325a / *Samson Agagistes* [472-478]  
350
- 33 PASCAL *Provinciales Letters* 147b 163a 166b  
passim / *Pensées* 556-560 272b 273b 62-68  
285 287a 88-88 345b / *Vacuum* 355b /  
*Geometric Demonstration* 440a b
- 35 LOCKE *Human Understanding* BK III CH IX  
SECT 23 291b BK IV ■ VI SECT II  
340b c CH XVI SECT 14 371b CH XVIII  
SECT 3 381 d 3 CT 6-9 382d 383d CH  
XIX 384c 388d passim ■ P SECT 4 385b
- 35 HUME *Human Understanding* SECT XI DIV  
13 509c
- 38 ROUSSEAU *Inequality* 366 d
- 40 GORDON *Decline and Fall* 179b c 186c  
187b 201a 307d 308a 346b
- 41 GORDON *Decline and Fall* 227d 228a 231a d
- 43 MILL *Liberty* 311a ■ / *Utilitarianism* 455a-c
- 44 BOWEN *Johns* n 347a 394a b
- 46 HELEN *Philosophy of History* INTRODUCTION 159b-  
160 ART I 245d 246c ART 307b 308a
- 51 TOLSTOY *War and Peace* K 50b
- 52 DO OEVSKY *Others* K a m z o K v  
127b 137c passim esp 129b-130a BK V 150d  
153d

1b(2) Miscellaneous and signed vine confirmation

- Old Testament Gen 5 / Exod 4-9  
7 2 14 ■ 7-7 19 20c esp 19 16-  
2 2 18 24 15 17 33 8-10 34 10 29-35 /  
Number 11 24 5 16-17 / *Deuteronomy*  
4 0-13 36 5 esp 5 22 26 8 2 4 / *Joshua*

- 37 4 24-(D) Josue 37 4 24 / *Judges* 6 11-  
24 36-40 / *Samuel* 12 15 9-(D) *I Kings*  
2 5 19 / *I Kings* 7 8-(D) *III Kings*  
17 18 / *II Kings* 1 5 6 25-7 20 20 1 11-  
(D) *IV Kings* 1 2 5 6 25 7 20 20 1 11 /  
*Isaiah* 38-(D) *Isaiah* 38 / *Daniel* 2 1 5 31  
6 18 8-(D) *Daniel* 2 1 3 23 3 9-5 31  
6 18-28

APOCRYPHA Wisdom of Solomon 12 17 7 16-  
(D) *OT Book of Wisdom* 12 17 27 16 /  
*Bel and the Dragon* 31 4 -(D) *OT Daniel*  
14 30-41 / *II Maccabees* 9-(D) *OT II Maccabees* 9

- NEW TESTAMENT Matthew 8 1 7 23 34 9 1-  
8 18 34 10 1 12 22 29 4 3 33 15 -39  
17 -8 14 2 20 29-34 21 17-22 / *Mark*  
1 23-2 12 4 37 40 5 6 34-56 7 24-8 26  
9 1 10 16-29 1 46-52 15 31-32 6 16-8  
/ *Luke* 1 5 66 4 31-5 26 7 1-23 8 22-56  
9 1 12 20 28-44 14 1-6 17 19 18 35-43  
/ *John* 1 43-51 2 1-12 32 3 4 46-54  
5 -9 36 9 11 1-48 12 27-30 37-40 13 9  
4 9 20 1-9 24-31 / *Acts* 2 1-22 32-16  
5 1 24 8 6-8 13 9 3 2 33 42 12 5-11  
13 9-12 14 7 10 19 20 9- 22 6-  
16 28 3 10 / *Hebrews* 3 4

18 AUGUSTIN *City of God* BK X ■ 8-9 303a  
304 CH 12-13 306d 307c CH 7 309 310b  
CH 3 320c 321d BK XXII CH 5 10 589a  
599b / *Christian Doctrine* K II CH 41 42  
656a d

19 AQUINAS *Summa Theologica* PART I Q A  
13 ANS nd R P 2 61 62b

20 AQUINAS *Summa Theologiae* PART II Q 112  
A 5 ANS 359 360c PART II Q A 1 R P I  
391a 392 A 9 REP 3 398c 399b Q 5 A 2  
411b 412a Q 6 A 1 ANS and RE 413d  
414

21 DANTON *Duine Comedy* PARADISE XXV [2-  
14] 143b d

22 CHURCHER *Tale of Manners of Law* [4869-4924]  
242b-243b / *Prior's Tale* [3 418-62] 392a  
395b esp [3 537-599] 394a 395 / *Scond*  
*Nu Tale* [5 787-816] 467a ■ [15 957-  
16 1] 470b 471b

23 HOES *Leviathan* PART I 83c d PART II  
137b PART III 166a 167b 188a 191a

25 MONTAIGNE *Essays* 98b 99

30 BOWEN *Advancement of Learning* 13d 14a  
19b 33 d 38a 41b d 55c d / *Natural History*  
201d 203

32 MILTON *Paradise Lost* K X [173 22]  
323 324 / *Samson Agagistes* [23 29] 340a

33 PAGAL *Pensées* 263 221a b 587-588 277a ■  
643-644 290b 291b 744-745 319a b 8 3-8 2  
328b-341b

35 LOCKE *Human Understanding* K V CH XVI  
5 CT 13 371 b CH X X SECT 5 388a-c 63

35 BEKLEY *Human Knowledge* 425b-c

35 HUNTER *Undersanding* CT X D V 86  
488d-489b D V 98 ■ 49 d-497b

(1b) *The sources of religious belief 1b(2) Miracles and signs as divine confirmation*

- 40 GIBBON *Decline and Fall* 180b c 189b 190d 294a 296d esp 295c 296b 445d-446b 465d 467b 547a b
- 41 GIBBON *Decline and Fall* 232a c 398b 399b
- 44 BOSWELL *Johnson* 126b = 359a 481d 482a
- 46 HEGEL *Philosophy of History* PART III 307a b PART IV 338b c
- 47 GOETHE *Faust* PART I [765-770] 20a
- 51 TOLSTOY *War and Peace* к v 219b 220a
- 52 DOSTOEVSKY *Brothers Karamazov* BK I 11a b BK V 127b 137c BK VII 171a 180a 189a 191a c BK XI 337a 346a passim

1b(3) *The testimony of prophets the anointed of God*

- OLD TESTAMENT *Exodus* passim esp 4 10-16 6.28 7 2 / *Leviticus* passim / *Numbers* passim esp 11 16-17 11.24 30 12 1-9 / *Deuteronomy* passim esp 18 15 22 34 9-12 / *Joshua* 1 3 7-4 14 23-24—(D) *Josue* 1 3 7 4 14 23 24 / *Judges* 6 7 10 / *I Samuel* 1 27-36 7 13 passim esp 10 1 13 15-16 28 7 2 —(D) *I Kings* 2 27 36 7 13 passim esp 10 1 13 15 16 28 7 20 / *II Samuel* 7 4 17 12 1 14 23 2 24 10-14—(D) *II Kings* 7-4-17 12 1 14 23 1 2 24 10-14 / *I Kings* 14 1 18 18 20 21 17 22 38—(D) *III Kings* 14 1 8 18 20 21 17 22 38 / *II Kings* 1-2 3 10-27 6-9 17 13 19 1-7 0-34 20 21 10 16 22 8 = 24 1 4—(D) *IV Kings* 1 2 3 10-27 6-9 17 13 19 1 7 20-34 20 21 10-16 2 8 20 24 4 / *I Chronicles* 17 3-15 21 9-26—(D) *I Paralipomenon* 17 3 15 21 9-26 / *II Chronicles* 11.2 4 15 1 15 18 20 14 27 21 12 19 25 5 16 28 1 15 34 14 15 1 15 18 20 4 27 21 2 19 25 5 16 28 1 15 34 14 33 36 14 21 / *Ezra* 9 10-11—(D) *I Esdras* 9 0-11 / *Nehemiah* 9 30—(D) *II Esdras* 9 30 / *I Isaiah* p s m esp 6 13 11 1-5 6 1 3—(D) *I Isaiah* p s m esp 6 13 11 1-5 6 1 3 / *Jeremiah* p s m esp 1 7-25 27 3 5-6 25 4 7 25 13 28 5-9 38 14 23—(D) *Jeremias* passim esp 1 7-25 27 23 5 6 5 4 7 25 3 28 5-9 38 14 23 / *Ezekiel* passim esp 1 3 8-11 13—(D) *Ezechiel* passim esp 1 3 8-11 13 / *Daniel* 5 6 18 28 7 12 passim esp 9-25 26 10 5 19 / *Hosea* passim esp 6 4-6 11 9-1 —(D) *Osee* passim esp 6 4-6 12 9 0 / *Joel* p s m esp 1 28-29 / *Amos* passim esp 3 7-8 / *Obadiah*—(D) *Abdā* a / *Jonah* esp 3—(D) *Jo* s esp 3 / *Micah* passim p 3 8—(D) *Micheas* passim esp 3 8 / *Nahum* / *II Nahum*—(D) *II Habacuc* / *Zephaniah*—(D) *Sophonia* / *II Aggei* / *Zacharias* p s m esp 1 6 7 12 14—(D) *Zachari* s passim esp 1 1-6 1 14
- NEW TESTAMENT *Matthew* passim esp 8-23 3-6 2 19 23 3 1 17 4 2 16 5 17 18 8 4

- 17 11 1 15 12 14 21 13 57-58 11-5 2 3 10 27 35 28 18-20 / *Mark* passim esp 11-18 6 4-6 16 15 16 / *Luke* passim esp 1 6 1 4 16-21 4-24 11 48-50 / *John* passim esp 1 6-8 1 45 4 43-44 5 39 7 37-5 12 3 4 / *Acts* passim esp 1 36 3 18 3-25 1 37 60 8 30-39 9 15 13 27 41 15 13 1 19 1 7 24 14-15 26 15 20 28 16-27 / *Romans* 10 12-11 36 / *I Corinthians* 2 4-5 35 14 15 10 11 / *Ephesians* 1 12 13 / *Hebrews* 1 2 2 6-10 4 3-7 5 5 10 8 4 12 / *II Peter* 1 16 21 / *I John* 5 9-13
- 18 AUGUSTINE *City of God* BK VII CH 32 262a b BK X CH 32 320c 321d BK XI CH 2 4 323a 324a BK XV CH 26 419b-420a BK XVI CH 2 422b-423d CH 37 42 444b-448a BK XVII 449a 472a c esp CH 3 450c 451c BK XVIII CH 11 477c d CH 23 483d-485 CH 24 486c-487a CH 33-34 490c 491c c 1 44 498a d CH 46 500a d BK XIX CH 22 525b c BK XX CH 29-30 557a 560a c BK XXII BK 5 590a d
- 20 AQUINAS *Summa Theologica* PART II Q 1 A 4 REP 4 382c 383b Q 5 A 1 REP 3 410a 411b A 2 ANS 411b-412a Q 6 A 1 5 413d 414c PART III Q 26 A 1 REP 1 845b 845a
- 21 DANTE *Divine Comedy* PURGATORY XXI [55-93] 87a c PARADISE XXV [64-96] 145a b XXVI [1 45] 145d 146b
- 23 HOBBS *Leviathan* PART II 137b 138b 160b c PART III 165a 167b 176d 177c 18 d 188a 244b c PART IV 248a II CONCLUSION 281d 282a
- 25 MONTAIGNE *Essays* 239b c
- 30 B CON *New Atlantis* 202d 203c 209a b
- 32 MILTON *Christian Nativity* [1 7] 1a / *Paradise Lost* BK I [167 193] 139a II BK XI [656-749] 313b 315b [802-834] 316b 317b BK XII [335 248] 324b [315 330] 326 II
- 33 PASCAL *Pensées* 570-5, 8 273b 276a 598-600 278b 279a 616-618 283b 284a 637-641 289b 290a 642-692 290b 301 passim 693 741 301b 319a 751-758 320a 321 61 321b 322a 77 323a 829-830 333b-334a
- 35 HUME *Human Understanding* SECT X DIV 1 1 497a b
- 40 GIBBON *Decline and Fall* 181b 187a 188c 206a b 297a 307d 308
- 41 GIBBON *Decline and Fall* 230c 231d
- 48 MELVILL *Moby Dick* 30 36b
- 2 The virtue and practice of religion, pretty as it is to God
- OLD TESTAMENT *Genesis* 5 26 4-5 28 18 22 / *Exodus* passim esp 20 32 34 12 14 / *Leviticus* 18 1 5 26 / *Numbers* passim / *Deuteronomy* 4 1 40 5-6 8 11 esp 10 12 13 12.28 32 24 32 / *I Joshua* 22 1-6 24 14 28—(D) *Joise* 22 1-6 24 14 28 / *I Kings* 8 57-61—(D) *II Kings* 8 57-61 / *II Kings* 17 36-37 21 8—(D) *IV Kings* 17 36-37 21 8 / *I Chronicles* 22 12 13—(D) *I Paralipomenon* 22 12 13 /

- N hemiah* 1 8-9—(D) *II Esdras* 1 8-9 / *Psalms* passim esp 22 2 31 -7 14 29 2  
40 7-8 45 11 78 5-8 89 15 3 96 8-9 99 1-  
9 119 1 176—(D) *Psalms* passim esp 21 23-  
32 16 1 14 28 2 39 8 9 44 12 77 5-8  
88 16-31 95 8-9 98 1 9 118 1-76 / *Eccle*  
*sa tes* 12 3 / *Isaiah* 3 9-29-3  
37-21-36 42 44 48 58 64 1 7—(D) *Isaiah*  
1 3 9-0 29-30 37 21 36 42 44 48 58  
64 -7 / *Jeremiah* 1-44 p 44 passim esp 7 22 23  
1 1 4—(D) *Jeremiah* 1 44 passim esp 7 22-  
3 11 -4 / *Ezekiel* 5 8 11 16 pa im 2  
23 24—(D) *Ezekiel* 1 5-8 11 16 passim 20  
23 4 / *Hosea* passim esp 6 6—(D) *Osee* pas-  
sim esp 6 6 / *Amos* passim esp 4 4 5 5 4 /  
*Micah* 6 8—(D) *Micah* 6 8 / *Zephaniah*—  
(D) *S phonias* / *Zechariah* passim esp 14 16-  
2 —(D) *Zacharias* p im esp 14 16-21 /  
*M lachi* esp 3 7 14—(D) *M l hia* esp 3 7-  
14
- AF CRYPIA *Rest of Esther* 13 14—(D) OT  
*Esther* 13 4 / *Wisdom* / *S lomon* pas-  
sim—(D) OT *W k of Wisdom* passim /  
*Ecclesiasticus* 15-18 19 17 24 35—(D)  
OT *Ecclesiasticus* 2 8 23 9 17 1 35 /  
*B uch* 4 1 3—(D) OT *Ba uch* 4 1 3 / I  
*M eube* 2 20 28—(D) OT I *Machabees*  
2 0-28
- NEW TESTAMENT *M tthen* 4 8 10 22-2 34 4  
/ *Mark* 12 7 8 34 / *Luke* 4 6-8 1 5 7  
17 7 2 25 / *John* 4 2 24 / *R m s*  
3 9-8 4 -8 58 21 8 7 / *G lat n*  
3 0-13 5 -5
- 4 H W A *Iliad* BK 13a 9 c 1 ix [485-549]  
62 c / *Odyssey* K I [-68] 193a d
- 5 Aes HYLUS *Suppl* i *M den* 1 14a /  
*S en Ag m t Th b* 10 1 84] 38b 39a /  
*Ag memno* [351 402] 55d 56b [681-829]  
59b 61a
- 5 So HOCL s *Oed pus the Ang* [863-910]  
107b-c / *Ant g n* 131a 142d esp [146-4 o]  
134d 135a / *Aja* [666-677] 148d [316-1421]  
154b-155a n / *El tr* [1058 1 97] 164d 165a  
/ *Philoctetes* [1440-444] 195 c
- 5 EGRIP m s *H ppolysius* 225a 236d esp [983-  
1035] 233a c / *Iler clendae* [748 783] 254d  
255a / *Jon* 28 a 297d esp [4 53] 283a b  
[585-647] 287d 288b / *H l n* [865 31]  
306c 308a passim / *Baccha* 1 340a 352  
c p [977 1023] 348b c
- 6 H A DORUS *H st ry* BK vi 201d 202c
- 7 Pl to *Euthyph* o 191a 199a c / *Ap l gy*  
200 212a c passim / *Gorgias* 284a 285a /  
*R public* BK 297a b / *Law* BK iv 682d  
683b BK x 769d 771b
- 12 E ICTETU *Disco* te BK CH 16 122a d  
CH 27 132 133a BK 1 c 16 158b d BK  
1 CH 24 204b d 208d 210 K IV CH 3  
224d CH 243 d
- 12 AU ELIU *M d t n* K I ECT 3 262c  
BK IX ECT 291a-c s CT 40 295b
- 14 P UTARCH *Aem ius Pa lu* 214b-d
- III AUGUSTINE *Confessions* BK v par 2 27b c /  
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(2 *The true and practice of religion piety as just ceto God*)

2a Prayer and supplication their efficacy

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15 10 12 14-(D) Josue 7 6 15 10 12 14 /  
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1 12 19-21-(D) I Kings 1 12 19-25 / II Sa-  
muel 7 18 29 2 4 20 esp 22 7 24 10 25-(D)  
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20 11 / I Chronicles 4 10 17 16-27 21 8-27-  
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7 12 22 14 10-13 16 12 20 1 25 30 18  
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21 9 5 15-(D) I Esdras 8 22-23 9 5 5 /  
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16 17 22 21 15 22 27 30 20 32 26-28  
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entations 3 8 44 55-57 / Daniel 6 4 13 9 /  
I 2 32 / I Nah 1 4 6 2 4 1 4-(D) Jona-  
1 4 6 22 11 4 1 4 / Micah 3 1 4-(D)  
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- APOC YPHA *Judith* 16-(D) OT *Judah* 11 / *Rest of Euther* 13 14 16 0-22-(D) OT *Euther* 13 14 16 20 22 / *Wisdom of Solomon* 10 19-2-(D) OT *Book of Wisdom* 11 19-20 / *Ecclesiasticus* 1 11 25 17 21 35 1 7 39 15-35 47 8-10 50-51-(D) OT *Ecclesiasticus* 11 31-32 17 21 22 37 22 39 7 41 47 3 1 50-51 / *Song of David* *Child en* 28-68-(D) OT *Dance* 1 1 / *I Mcabees* 2 15 48 4 22-51-(D) *I Mcab* b s 2 2 5 48 4 22-51 / *II Mcab* 26 1 5-5-(D) OT *II Mcabees* 1 5
- N W T T M NT *Mattheu* 1 4 9 10 12 2 / *M k* 2 23 3 4 / *Luke* 2 21 24 4 6-8 8 9 / *John* 4 19 23 13 14 15 29 1 9-25 / *Romans* 22 23 4 1 4 esp 4 10-11 14 2 7 / *I Corin* 12 7 18 9 / *G I tians* 4 7 11 11 6 12 *Coloss* s 2 0-23 3
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178d 178e 178f 178g 178h 178i 178j 178k 178l 178m 178n 178o 178p 178q 178r 178s 178t 178u 178v 178w 178x 178y 178z 179a 179b 179c 179d 179e 179f 179g 179h 179i 179j 179k 179l 179m 179n 179o 179p 179q 179r 179s 179t 179u 179v 179w 179x 179y 179z 180a 180b 180c 180d 180e 180f 180g 180h 180i 180j 180k 180l 180m 180n 180o 180p 180q 180r 180s 180t 180u 180v 180w 180x 180y 180z 181a 181b 181c 181d 181e 181f 181g 181h 181i 181j 181k 181l 181m 181n 181o 181p 181q 181r 181s 181t 181u 181v 181w 181x 181y 181z 182a 182b 182c 182d 182e 182f 182g 182h 182i 182j 182k 182l 182m 182n 182o 182p 182q 182r 182s 182t 182u 182v 182w 182x 182y 182z 183a 183b 183c 183d 183e 183f 183g 183h 183i 183j 183k 183l 183m 183n 183o 183p 183q 183r 183s 183t 183u 183v 183w 183x 183y 183z 184a 184b 184c 184d 184e 184f 184g 184h 184i 184j 184k 184l 184m 184n 184o 184p 184q 184r 184s 184t 184u 184v 184w 184x 184y 184z 185a 185b 185c 185d 185e 185f 185g 185h 185i 185j 185k 185l 185m 185n 185o 185p 185q 185r 185s 185t 185u 185v 185w 185x 185y 185z 186a 186b 186c 186d 186e 186f 186g 186h 186i 186j 186k 186l 186m 186n 186o 186p 186q 186r 186s 186t 186u 186v 186w 186x 186y 186z 187a 187b 187c 187d 187e 187f 187g 187h 187i 187j 187k 187l 187m 187n 187o 187p 187q 187r 187s 187t 187u 187v 187w 187x 187y 187z 188a 188b 188c 188d 188e 188f 188g 188h 188i 188j 188k 188l 188m 188n 188o 188p 188q 188r 188s 188t 188u 188v 188w 188x 188y 188z 189a 189b 189c 189d 189e 189f 189g 189h 189i 189j 189k 189l 189m 189n 189o 189p 189q 189r 189s 189t 189u 189v 189w 189x 189y 189z 190a 190b 190c 190d 190e 190f 190g 190h 190i 190j 190k 190l 190m 190n 190o 190p 190q 190r 190s 190t 190u 190v 190w 190x 190y 190z 191a 191b 191c 191d 191e 191f 191g 191h 191i 191j 191k 191l 191m 191n 191o 191p 191q 191r 191s 191t 191u 191v 191w 191x 191y 191z 192a 192b 192c 192d 192e 192f 192g 192h 192i 192j 192k 192l 192m 192n 192o 192p 192q 192r 192s 192t 192u 192v 192w 192x 192y 192z 193a 193b 193c 193d 193e 193f 193g 193h 193i 193j 193k 193l 193m 193n 193o 193p 193q 193r 193s 193t 193u 193v 193w 193x 193y 193z 194a 194b 194c 194d 194e 194f 194g 194h 194i 194j 194k 194l 194m 194n 194o 194p 194q 194r 194s 194t 194u 194v 194w 194x 194y 194z 195a 195b 195c 195d 195e 195f 195g 195h 195i 195j 195k 195l 195m 195n 195o 195p 195q 195r 195s 195t 195u 195v 195w 195x 195y 195z 196a 196b 196c 196d 196e 196f 196g 196h 196i 196j 196k 196l 196m 196n 196o 196p 196q 196r 196s 196t 196u 196v 196w 196x 196y 196z 197a 197b 197c 197d 197e 197f 197g 197h 197i 197j 197k 197l 197m 197n 197o 197p 197q 197r 197s 197t 197u 197v 197w 197x 197y 197z 198a 198b 198c 198d 198e 198f 198g 198h 198i 198j 198k 198l 198m 198n 198o 198p 198q 198r 198s 198t 198u 198v 198w 198x 198y 198z 199a 199b 199c 199d 199e 199f 199g 199h 199i 199j 199k 199l 199m 199n 199o 199p 199q 199r 199s 199t 199u 199v 199w 199x 199y 199z 200a 200b 200c 200d 200e 200f 200g 200h 200i 200j 200k 200l 200m 200n 200o 200p 200q 200r 200s 200t 200u 200v 200w 200x 200y 200z 201a 201b 201c 201d 201e 201f 201g 201h 201i 201j 201k 201l 201m 201n 201o 201p 201q 201r 201s 201t 201u 201v 201w 201x 201y 201z 202a 202b 202c 202d 202e 202f 202g 202h 202i 202j 202k 202l 202m 202n 202o 202p 202q 202r 202s 202t 202u 202v 202w 202x 202y 202z 203a 203b 203c 203d 203e 203f 203g 203h 203i 203j 203k 203l 203m 203n 203o 203p 203q 203r 203s 203t 203u 203v 203w 203x 203y 203z 204a 204b 204c 204d 204e 204f 204g 204h 204i 204j 204k 204l 204m 204n 204o 204p 204q 204r 204s 204t 204u 204v 204w 204x 204y 204z 205a 205b 205c 205d 205e 205f 205g 205h 205i 205j 205k 205l 205m 205n 205o 205p 205q 205r 205s 205t 205u 205v 205w 205x 205y 205z 206a 206b 206c 206d 206e 206f 206g 206h 206i 206j 206k 206l 206m 206n 206o 206p 206q 206r 206s 206t 206u 206v 206w 206x 206y 206z 207a 207b 207c 207d 207e 207f 207g 207h 207i 207j 207k 207l 207m 207n 207o 207p 207q 207r 207s 207t 207u 207v 207w 207x 207y 207z 208a 208b 208c 208d 208e 208f 208g 208h 208i 208j 208k 208l 208m 208n 208o 208p 208q 208r 208s 208t 208u 208v 208w 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881d 882c A 3 ANS and REP 2 882d 883d A  
4 ANS and REP 3 883d 884a c

21 DANTE *Divine Comedy* PURGATORY 15 [3  
145] 66c 67b

22 CHAUCER *Prologue* [477-528] 167b 168a  
*Prologue of Pardoner's Tale* 872a 574a  
*Pardoner's Tale* [12 829-903] 381b 382b

23 HOBBS *Leviathan* PART I 83a-84c PART III  
177c 180d 182d 186b 199 200b-203b  
205a 207b 240a PART IV 248b-250c 256a-  
c 272d 273a 273d 274a 275a 278d

24 RABELAIS *Gargantua and Pantagruel* BK II  
119b 122a *passim* BK III 185d 188c 195d  
196b 219b 222b BK IV 273c 274b 285c  
297b

30 BACON *Idol of Learning* 7d

32 MILTON *Lycidas* [108 131] 30a b

33 PASCAL *Pensées* Letters 160b-163b

35 LOCKE *Human Understanding* BK I CH IV  
SECT III 115c d

38 MONTEQUIEU *Spirit of Laws* BK XXV 209d  
210b

38 ROUSSEAU *Social Contract* BK IV 436c

40 GIBSON *Decline and Fall* 82c d 194c 195a  
197 b 200b-c 300d 301c 350b d 457d  
458b

41 GIBSON *Decline and Fall* 226d

44 BOSWELL *Johnson* 189a 195a c 218c 220d  
313d 316d 466b-467c

46 HEGEL *Philosophy of History* PART I 224c  
227d 241a b PART III 310a-c PART IV 31 b  
333b

48 MELVILLE *Moby Dick* 30a 35b esp 35a  
36b

52 D STOEVSKEY *Brothers Karamazov* BK I  
127b 137c *passim* BK VI 164a 165a BK VII  
171a 180a *passim*

## 3c(2) Ecclesiastical government and hierarchy

- OLD TESTAMENT *Leviticus* 21 10-15 / *Numbers* 3 5-10 / *I Chronicles* 23 4—(D) *I Paralipomenon* 23 24 / *II Chronicles* 19 11—(D) *II Paralipomenon* 19 11
- N W TESTAMENT *Matthew* 16 18-19 8 18 20 25 28 28 18 20 / *Mark* 10 42 44 13 34-35 / *Luke* 22 24 3 / *Acts* 1 1 26 5 30-31 6 1-6 13 1 3 15 1 3 17 14 15 2 28-35 23 5 26 9-12 / *I Timothy* 3 / *Titus* 1 esp 1 5 / *Hebrews* 1 8 3 1 4 14-15 10 6 19-10 21 13 7 / *Revelation* 11 15 17 14—(D) *Apolypsis* 1 15 17 14
- 7 PLATO *Laus* bk xii 787b-c
- 20 AQUINAS *Summa Theologiae* PART II II Q 1 AT 389d 390d B A 6 395b 396a Q II A 2 REP 3 439a 440b PART I I Q 65 A R 3 879c 881d
- 21 DANTE *Divine Comedy* HELL, XXVII [67 32] 40-41 PURGATORY XIV [127 141] 82d 83a
- MACHIAVELLI *Prince* xxi 16d 17d
- 22 H B S *Leviathan* PART III 178 180a passim esp 179 198 199a 207b 240a PART IV 248 249b 266a-c 273c d 275a 278d
- 23 RABELAIS *Gargantua and Pantagruel* bk iv 288d 297b
- 30 B CON *Adrianament of Leuning* 101a
- 32 MICRON *New Fiers of Conscience* 68a b
- 33 PAS AL *Pensees* 871-877 344b 345a 885 346a
- 35 LOCKE *Tolerant* n 4 6a 7c 8
- 36 ROUSSEAU *Social Contract* bk iv 436d [fn 1]
- 40 GIBSON *De line and Fall* 194a 197b 299b-300d 302b 303 304a d 642d 643a
- 41 GIBSON *De line and Fall* 154 b 214 215c 517a d 567 569d 582 586a passim 589b d
- 44 B SWER *Lf hns* n 173b 342a b
- 46 HROEL *Phloophy f History* PART I 224a 227d PART I 310a c
- 3 (3) The support of ecclesiastical institution tithes contribution state body
- OLD TESTAMENT *Genesis* 14 8 2 28 18 2 47 22 6 / *Exodus* 3 2 12 3 22 29-3 23 18 B 5 9 29 7 34 3 1 B 34 9 0 25 26 35 4 36 7 / *Leviticus* 2 5 3 6 16-8 24 30 7 6-15 30 36 8 31 10 1 2 14 13 2 13 21 passim 4 5-9 5 32 34 27 / *Numbers* 3 2 13 5 9-10 7 passim esp 7 3-9 B 8-32 31 25-54 35 8 / *Deuteronomy* 10 8-9 12 5-6 19 14 22 9 16 16-7 18 8 6 1 6 / *f shua* 3 14 33 14 3-5 18 6-7 2 —(D) *f se* 3 14 33 14 3-5 18 6-7 21 / *I Samuel* 3 7 —(D) *I Kings* 13-17 / *II Kings* 2 2 3-7 —(D) *IV Kings* 2 22 3 7 / *II Chronicles* 24 4 3 3 34 8-13 —(D) *II Paralipomenon* 24 4 3 3 12 34 8-3 / *Extr* 8 24 30 —(D) *I Ed* 3 8-24 30 / *Nehemiah* 32 39 2 44 47 3 5 2 —(D) *II Edas* 10 3 39 2 43 46 13 5 / *Proverbs* 3 9-10 / *Iaah* 66 20-1 —(D)

- Isaiah* 66 20-21 / *Ezekiel* 2 40-41 44 27-31 45 1-6 48 8 21 —(D) *Ezechiel* 1 20 40 41 44 27-31 45 1-6 48 8-21 / *Malachi* 3 8 10 —(D) *Malachi* 3 8 10
- APOCRYPHA *Tobit* 1 6-8 —(D) OT *Tobias* 1 6-8 / *Ecd* *sticus* 7 31 35 8-11 45 20-2 —(D) OT *Ecd* *sticus* 7 33 35 35 10-13 45 25 27
- N W TESTAMENT *Matthew* 23 23 / *Luke* 11 42 B 12 / *I Corinthians* 9 13 14 / *Hebrews* 7 1-1
- 9 ARISTOTLE *Politics* K II CH 8 [1267<sup>8</sup> 30-36] 463 CH 10 [1 7 18-1 468c d BK VI CH 10 [1330 8 14] 534c CH 12 [133<sup>8</sup> 4 7] 536a
- 20 AQUINAS *Summa Theologiae* PART II Q 185 A 7 647 649b B 187 AA 4-5 669b 673b PART III Q 65 A 1 REP 7 879 881d
- 22 CHAUCER *Prologue* [692-714] 171a b / *Simmoners Tale* 285a 295a / *Prigues of Pardners Tale* 372a 374a / *Pardners Tale* [12 829-902] 381b 382b
- 23 HOBBS *Leviathan* PART III 223a 224c PART IV 248d 249 278c
- 24 RAS LAY *Gargantua and Pantagruel* K II 99 100a BK IV 295d 295a
- 26 SHAKESPEARE *Henry I* ACT I SC 1 533a d
- 38 MONTESQUIEU *Spirit of Laws* BK XXV 210b 211a BK XXV 298b 302a
- 39 SITH *Wald of Nations* BK 1 56b 57a K V 343b d 356d esp 343b d 346c 347d 348a 357
- 40 G ON *De line and Fall* 82d 197b 198c 301c 302b 392c 393d 597a c
- 41 G ON *D line a d Fall* 417b-c
- 42 KANT *Science of Right* 444a-c
- 44 BOSWELL *Johnson* 219b c 342 B
- 3d The monastic life the discipline of asceticism
- OLD TESTAMENT *Numbers* 6 / *Judges* 13 5 16 17 / *I Samuel* 1 9 12 9-8 —(D) *I Kings* 1 9 1 19-28 / *Am* 2 1 12
- NEW TESTAMENT *Matthew* 3 14 4 6 25-34 19 10-12 21 / *Mark* 1 2-6 12 13 10 2 / *Luke* 3 13 15 80 3 2 4 4 12 2 36 18 22 / *I Corinthians* 7 1 7-8 25 40 / *II Corinthians* 6 1
- 18 AUGUSTINE *Confessions* K V p 2 6 27 60b c / *City of God* K I CH 6-18 139 140d
- 20 AQUINAS *Summa Theologiae* AT Q 64 A 1 R 3 66d 67 Q 98 A 5 R 2 3 243c 244b Q 108 A 4 336b 337d PART II Q 184 A 5 633 634c AA 7-8 635a 639b B 185 A 6 646c 647c A 8 649b 650b QQ 186-189 650b 700d PART III U PL Q 89 A 2 1006b 1007c
- 21 DANTE *Divine Comedy* HELL, K I [67 32] 40c 41 PARADISE 1 109b-110 xi [28 39] 122b 123 x i [3 6] 124 125a
- 22 CHURCH *Prologue* [16 07] 162 b / *Tristram* *Prologue* 277 b / *F* *Tristram* 278a 284 / *Summoners Prologue* 284b 285a / *Summoners Tale* 285 295

- (3) *The religious life religious offices and the religious community* 3d *The monastic life the disciplines of asceticism*)
- 24 FABELAIS *Gargantua and Pantagruel* BK I 32c 35a 46 54a 60c 67d BK II 98b d 126a d BK III 156d 158a 165b d 168a 173d 191a b 193d 194a 195d 196b BK IV 253d 255a
- 26 SHAKESPEARE *Midsummer Night's Dream* ACT I SC I [67-78] 353a b
- 30 BACON *Advancement of Learning* 7d 71b c
- 32 MILTON *Il Penseroso* [156-176] 24b 25a
- 33 PASCAL *Pensées* 539 265b
- 38 MONTESQUIEU *Spirit of Laws* BK V 19a BK XIV 105a b
- 40 GIBBON *Decline and Fall* 191c 193c 475d 476a 533c d 593b d 599a
- 43 MILL *Liberty* 290c 291c
- 44 BOWELL *Johnson* 102a b 283a
- 46 HEGEL *Philosophy of History* PART I 224b d 228b 234d 235c PART IV 333b d 340d 341a 353a b
- 51 TOLSTOY *War and Peace* BK V 218b 220b BK I 273c 274a c
- DOSTOEVSKY *Brothers Karamazov* BK I 11a 15a c BK II 37c 38a K IV 83c 84a 85a 80b BK VI 146b d 170d passim esp 164a 165a BK VII 171a 180 passim
- 4 Church and state the issue concerning temporal and spiritual power
- OLD TESTAMENT II S m I 7—(D) II Kings 7 / I Kings 5-6 B—(D) III King 5-6 8 / I Chronicles 17—(D) I Paralipomenon 17 / II Chronicle 1-7 19 11—(D) II Paralipomenon 1-7 19 11 / Ezra—(D) I Ezra
- APOCRYPHA I Maccabees 11 26-27—(D) OT I M chab 1 26-27 / II Maccabees 7 30—(D) OT II M chabees 7 30
- NEW TESTAMENT Matthew 17-24 27 22 15 22 —(D) Mark 17 23 26 22 15 22 / Mark 12 3 17 / Luke 20 19-26 / Acts 5-29 / Romans 13 1-7 / Titus 3 1 / I Peter 2 13 7 9 / Isthm Eth c BK VIII CH 9 [1160 19-29] 412b c
- 12 EPICUREUS *Discourses* s BK I CH 30 138a c BK II CH 5 143d 144a BK IV c 13 224b d
- 15 T CITU *Anals* ■ 1 59d 60c
- AUGUSTIN *Confessions* BK I par 15 17a b / *City of God* BK I PREF 129 d BK IV CH 33 34 206 207 ■ BK V CH 15 16 220d 221b 1 25 228b-c BK VI 11 322b d 323a c XV x 71 397b d 507a c esp K XV CH 1-5 397b d-400c K XI c 11 3 449a 451c BK XVI 11 2 472b d 473d BK XIV CH 5 513d 514b c 11 516d 517b CH 14 520a d ■ 17 522b-523 c 1 9-26 523b 529a
- 20 AQUINAS *Summa Theologiae* T II Q 96 4 A 2 3 233 d 5 RE 2 233d 234d PART II Q 1 A 10 434c-435c Q 12 2 443b-444b
- 21 DANTE *Divine Comedy* HELL II [10-17] XXXIV [1 69] 51b 52a PURGATORY VI [151] 61b 62c VIII [79-96] 72d XVI [58] 77c 78a XXVII [1]—XXXIII [1,8] 103c 105a XXVIII [100-160] 102b 104a PARADISE III [113c 114d
- 23 HOBBS *Leviathan* PART I 80d 81a 8 d 8 84a c PART II 151a c 155d 156b PART III 159d 172a PART III 177c 191b 195c PART III IV 198a 258b PART IV 265a 270c d 273c 274a 274c 278d
- 26 SHAKESPEARE *1st Henry VI* ACT I SC 5b 6c ACT III SC I 14b 15b / *King John* 3 405a c mp ACT III SC I [125 347] 387c 388 ACT V SC I [1 24] 399b c SC II 400 401c 2nd *Henry IV* ACT IV SC II [1 42] 489d 46
- 27 SHAKESPEARE *Henry V* III 549a 585a c ACT III SC II 568b 573d
- 30 BACON *Advancement of Learning* 27
- 32 MILTON *New Forces of Science* 68a / *Lord Gen Comwall* 69a b / *Paradise Lost* XII [48, 521] 329b-331a / *Samson Agonistes* [1334-1379] 368b 369b / *Areopagitica* 38 388a
- 33 PASCAL *Pensées* 870 344a b
- 35 LOCKE *Tolerations* 2d 21c esp 2d 3a 7c 1b 20d 21c
- 38 MONTESQUIEU *Spirit of Laws* BK XI 85c 86a BK X 144c 145a BK XXIII 196c 19c BK XIV XXVI 200a 215a BK XXV 21 219d BK XXV 284d 285c BK XXI 298b 308c
- 38 ROUSSEAU *Equality* 327a-c / *Social Contract* BK I 401c-402 BK IV 435a-439c
- 39 SETH *Walloh of Nations* BK V 347d 354a
- 40 GIBBON *Decline and Fall* 197a b 232d 299b 304d passim esp 299b d 390c 391d passim 443d-446b c p 444c-445b 452b-453a 582c 611d 612a 623d 624b 631d 634a 642c 643a
- 41 GIBBON *Decline and Fall* 110b 111d 138b 140a 145d 150c passim esp 147d 148b 195a 199c 202d 204b 207a esp 205d 206b 212d 213d 214 215c 320d 321b 3 6c 360b 361b 417b-418d 557c 563d mp 560d 561c 567c 569d 582c 589d esp 585a-c 588b-589d 442c d 444a c
- 42 KANT *Science of Right* 442c d 444a c / *Judgment* 509d 510a
- 43 CONSTITUTION OF THE US ARTICLES ■ [591-599] 16d AMENDMENTS 17a
- 43 FEDERALIST NUMBER 52 165c NUMBER 5 177b
- 44 BOSWELL *Johnson* 314 315b
- 46 HEGEL *Philosophy of Right* PART III PART I 84d 89 AD ITIO 5 162 143b-144 / *Philosophy of History* INTRO 175c 177b 192 d 205d 206a c PART III 308b c 310c PART IV 316a 317a 325d 326b 330b 331d 336c 337d 345c 346c 350b-c 351b-354a 363b c
- 47 GOETHE *Faust* PART II [10 977 11 031] 25 b 268b
- 52 DOSTOEVSKY *Brothers Karamazov* BK II 25b 32c BK V 133c 135

#### 4a Religion in relation to forms of government the theocratic state

- OLD TESTAMENT *Numbers* 2 12 23 / *Judges* 8 22-23 / *I Samuel* 10 18 19 24 12 12-14 17 19-(D) / *I Kings* 8 10 18 19 24 12 12 14 17-19 / *Isaiah* 43 15-(D) / *Iaas* 43 15 / *Daniel* 4 17 25 32-(D) *Daniel* 4 14 29
- Apocrypha *Rest of Esther* 14 3-(D) OT *Esther* 14 3
- 7 PLATO *Stat sman* 597c 598a / *Lous* bk vi 700d 701b
- 9 ARISTOTLE *Polites* bk ii ch 8 [126<sup>b</sup> 3] 36] 463c d bk iii ci 14 [123<sup>5</sup> 3 7] 483a b bk v ci 11 [131<sup>a</sup> 35 131<sup>5</sup> 4] 517d bk vi ch 7 [2 1 35-1] 523 ch 8 [132<sup>a</sup> 19 29] 526c bk vii ch 8 [132<sup>a</sup> 2 22] 532d 533a ci 9 [132<sup>a</sup> 26-34] 533d ei 10 [133<sup>0</sup> 8 14] 534c ch 10 [133<sup>1</sup> 19-28] 535d [133<sup>4</sup> 7] 536a
- 20 AQUINAS *Summa Theologica* PART I q 99 aa 4-5 248a 250a qq 104 105 304a 321a
- 23 MACHIVELLI *Prince* ch xi 16d 17d
- 23 HOBBES *Leviathan* PART I 82b 83a p rt ii 111b 112c p rt iii 177c 180d 199b 204a 208d 228a-c
- 33 PASCAL *Pensées* 611 282b
- 35 LOCKE *Toleration* 14b-15a / *Civil Govern ment* ch xviii SECT 10 73b c
- 38 MONTESQUIEU *Spirit of Laws* a ii 7c 8c bk iii 12d 13c passim x v 27d x xiv 138e 140c esp 139c 140a bk xxiv 201a 202b bk xxv 211c 212b 214a-c
- 38 ROUSSEAU *Social Contract* bk ii 405d bk iv 435a-439c
- 40 GORDON *Decline and Fall* 13b c 208a c
- 41 CROKOW *Decline and Fall* 202 d 252c 288 e 557c 563d passim esp 558b-c 561c 562b 563c d 586c 589d esp 589b d
- 43 MILL *Representative Government* 343a
- 44 BOWELL *Johnson* 245c
- 46 HEGEL *Philosophy of Right* p rt iii par 355 112d 113a / *Philosophy of History* PART 17d 208c 216b 17 46d 247b e 47 iv 316c d 365b-c
- 52 DO ROZVICK *Others Kaama ou* p rt iii 28b-32c
- 46 The serv c of religion to the state and the political support of religion by the state
- 7 PLATO *Si tesman* 597c 598a / *Laws* bk vii 718d 720b bk xi 789a b
- 9 ARISTOTLE *Politics* bk i ch 8 [267<sup>b</sup> 30-3f] 463c d bk v ch ii [131<sup>5</sup> 35 131<sup>5</sup> 4] 517d bk vi ci 7 [132<sup>a</sup> 35<sup>b</sup>] 525a bk vii ch 8 [3 8 22] 532d 533a ci 10 [133<sup>0</sup> 8 4] 534c
- 13 VIRGIL *Aeneid* k [291 296] 111a k vii [75 104] 358b-359a [139-84] 376a b
- 14 PLINARCH *Numa Pompilius* 49a 61d esp 52d 53a 57b *Thermopyles* 92a-c / *Caracillus* 114c 116a / *Fiducia* 142d 143a / *Micellus* 247c 248b / *Lauder* 365a 366 / *Venturus* 462a 466d 467a / *Cleomene* 659d 660a

- 18 AUGUSTINE *City of God* bk i ci 1-6 129d 13 d ch 34 149a bk xiv ch 25 528d 529a
- 20 AQUINAS *Summa Theologica* PART II ii q 187 a 2 665a 666a q 188 aa 2 1675d 679d
- 23 HOBBS *Leviathan* PART I 80d 81a 82b d PART IV 258d
- 25 MONTAIGNE *Essays* 306a d 324c 326b
- 26 SHAKESPEARE *2nd Henry IV* ACT I SC I [187 215] 470a b ACT IV SC I [30-87] 487c 488a SC II [1 42] 489d-490a / *Henry V* ACT I SC I 533a d
- 29 CERVANTES *Don Quixote* PART II 290c
- 32 MILTON *Areopagitica* 397a
- 35 LOCKE *Toleration* 6b-7b 7d-8c 9c 10c 20d 21c / *Civil Government* ch xviii SECT 210 73b-c
- 3 HUME *Human Understanding* SECT V DIV 43 468c
- 38 MONTESQUIEU *Spirit of Laws* bk ii c 8 bk iii 13b c bk v 27d bk xviii 134c d bk xxiv 200a 208a c bk xxv 212 b 214a c bk xxvi 214d 215a
- 38 ROUSSEAU *Inequality* 321a-c 358d 359a 366c d / *Social Contract* bk i 401c 402a bk iv 435a 439c
- 39 SMITH *Wealth of Nations* bk i 56b-5 bk v 343b d 346 347d 348a 357c
- 40 GIBSON *Decline and Fall* 13b-d 229c 230a 289b d 294a esp 291d 292d 328c 330a c 348 361a c esp 349c 351d 382a 383b 457b d-460b passim 601c d 611d-612a 631d 632a
- 41 GIBSON *Decline and Fall* 147d 118b 20 b-207a 352b 353b 381a 383c
- 42 HANT *Science of Right* 444 -c / *Judgement* 509d 510a
- 43 ARTICLES OF CONFEDERATION in 5b
- 43 MILL *Liberty* 279a d 290c 291a / *Represent at e Government* 341a c 437d-438b
- 44 BOWELL *Johnson* 189c d 251c 314c 315b 445b e
- 46 HEGEL *Philosophy of History* INTRO 176b 177b ART II 287a d 311b-d PART IV 350b-c 353a b
- 47 GOETHE *Faust* PART II [1897 4916] 121b 122a
- 51 TOLSTOY *War and Peace* bk vi i 304c d k ix 374d 377b bk x 435 436c 443b bk xi 534c d bk xii 572d 574a
- 52 DOS OEV *vt Brothers Kaama ou* k i 28b 32c v 127b 137c passim esp 133c 135a
- 5 The d semination of religion
- 5a The f action of preaching
- NEW TESTAMENT *vt Matthew* p sum esp 3 i 3 4 7 25 7-28 29 9 35 i ii 6 3 10 28 19 20 / *Mark* p un esp 12-8 12 3 13 5 6 7 13 19-3 16 14 / *Luke* p sm sp 4 16-2 4 43 44 8 9 -6 9 59 c 20 16 16 19 47 48 24-46-41 / *Joh* ■ ■ esp 6-8 1 15 42 820 / *Acts*

(5) *The dissemination of religion 3a The function of preaching*

- passim esp 4 18 20 5 19-20 8 4 12 8 27-37  
9 15 10-12 13 13 23 24 13 38 13 44 47  
14 1 15 18-21 28 20 16-21 26 16-18 /  
*Romans* 1 9-15 10 8 11-21 16-25 / *I Corinthians*  
1 17 19 21 2 1-5 9 12-2 31 15 1 2 /  
*II Corinthians* 1 3 4 esp 4 5-6 / *Galatians* 1 1-  
2 9 esp 1 15-16 / *Ephesians* 3 / *Colossians*  
1 23 29 3 16 4 3 4 / *I Timothy* 2 5 7 3 16  
4 6-13 6 1-5 / *II Timothy* 1 8 11 2 22 26  
4 / *Titus* 1 1 3 1 7 3 11 / *Hebrews* 4 1 11  
■ *AUGUSTINE Confessions* 1 ak 1 par 1 2a b ak  
v par 23 ak vi par 3 33c 36a ak vi par 6  
36c / *Christ in Doctrine* 621a 698a c esp ak  
iv 675a 698a ■  
20 AQUINAS *Summa Theologiae* PART II II Q 6  
A 1 ANS and RE 413d-414c Q 10 A 12 REP  
5 436b 437d Q 18 A 3 REP 5 666a 669b Q  
188 A 4 678b 679d PART III SUPPL. Q 96 A 7  
1061b 1062a  
21 DANTE *Divine Comedy* PARADISE XXIX [67  
126] 151a ■  
22 CHAUCER *Prologue* [477-528] 167b-168a /  
*Parson's Prologue* [17 333 371] 494a b  
23 HOBBS *Leviathan* PART III 205b d 207b  
211c 215b 216b 219d 221b 224c 225d  
241d 242a 242 d PART IV 273d 274a  
35 LOCKE *Tolerance* 7d 8c  
36 STARR *Tristram Shandy* 253b 268a 367b  
368b  
39 SMITH *Wealth of Nations* ak v 343b d  
344b 352b-c  
40 GIBSON *Decline and Fall* 303c 304a 529b-  
530b  
41 GIBSON *Decline and Fall* 110b  
46 H GEL *Philosophy of History* PART IV 340d  
341a  
48 M LVILLE *Moby Dick* 30a 36b  
51 GOLSTON *War and Peace* ak vi 244d 245c  
52 DOSTOEVSKY *Beatska maza* ak 13a d  
ak vi 150d 153d

## 5b Religious confessions

- OLD TESTAMENT *Ruth* 1 18 / *II Kings* 5 1 15  
—(D) IV *Kings* 5 1 15 / *Psalms* 51 3—(D)  
*Psalms* 50 15 / *Daniel* 2 4—(D) *Daniel* 2 1  
3 23 3 9 1 34  
APOCRYPH *Bel and Dragon*—(D) OT *Daniel*  
14  
NEW TESTAMENT *Matthew* 9 2-8 15 30-31  
18 2 3 27 50-54 / *Mark* 2 3 12 4 11 12  
9 16-27 15 37 39 / *Luke* 2 8 20 5 18 26  
7 11 16 13 11 13 17 11 19 15 35 43 22 32  
23-44 47 / *John* 2 22 23 4 6 5 14 7 31 37  
41 8 28 32 9 11-41 15 12 10-11 16 29 30  
/ *Acts* passim esp 2 38-47 3 19 8 25-9 20  
11 19-21 13-4 43 14 1 6 14 15 16 25 34  
18 7-8 22 1 16 26 9 2 / *Colossians* 14-24  
25 / *Galatians* 1 13 19 / *Hebrews* 4 1-6 /  
*James* 5 19 20

- 18 AUGUSTINE *Confessions* ak 1-ix 1a 71b esp  
ak 1 par 17 18 5b d ak iii par 6-10 14b 15d  
ak iv par 1 19b c par 7-8 20d 21b ak v  
par 12 13 30a c par 23 25 33c 34c ak vi  
par 7-8 36d 37c ak vii par 24 50d 51a ii  
viii 52c 61c ak ix par 14 65a c  
19 AQUINAS *Summa Theologiae* PART I Q 6  
A 2 REP 3 318d 319c A 4 REP 2 320b 321b  
20 AQUINAS *Summa Theologiae* PART II Q 14  
A 8 432b-433b A 9 ANS 433b-434c A ■  
436b 437d Q 11 A 4 441b-442b  
21 DANTE *Divine Comedy* PURGATORY XX  
[55-93] 87a ■  
22 CHAUCER *Tale of Man of Law* [493 140d]  
244a [5100 5106] 246b 247a / *Second Nun's*  
*Prologue* 461a-463a / *Second Nun's Tale* 463b  
4 1b  
23 HOBBS *Leviathan* PART I 83d-84a PART II  
204a PART IV 264d 265c 266a  
30 BACON *Advancement of Learning* 41b-c  
33 PASCAL *Pensées* 189-194 205b-209b [69-74]  
323a  
35 LOCKE *Tolerance* 1a 2c 3b 3c-4a 7d b  
10d 11a 13b 15a 15d 16a  
37 FIELDING *Tom Jones* 165b d 379c 380a  
39 SMITH *Wealth of Nations* ak v 343b d  
344b  
40 GIBSON *Decline and Fall* 179a d 180c 181c  
189a b 200r 206b 296b-299a 599d 601b  
41 GIBSON *Decline and Fall* 152c 151a c passim  
esp 153c 155b 234d 245a 251d 252 281d  
287c 345d 347a c  
43 FEDERALIST NUMBER 1 30a  
44 BOSWELL *Johnson* 174a b 2 2a b 394d  
395b 536c  
46 H GEL *Philosophy of History* PART IV 32 c  
323a  
51 TOLSTOY *War and Peace* ak v 194a 203a  
216d 218b ak xi 476c-480a  
52 DOSTOEVSKY *Brothers Karamazov* ak v  
127b-137c passim ak vi 133d 164a ak xi  
313 314c

## 5c Religious education

- OLD TESTAMENT *Exodus* 12 24 27 18 19-20  
24 12 / *Leviticus* 10 8 11 / *Deuteronomy*  
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- I Works by authors represented in this collection
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## Chapter 80 REVOLUTION

### INTRODUCTION

MOST of the words commonly used as synonyms for revolution such as insurrection uprising rebellion or civil war carry the connotation of violence and the use of armed force. Most of the great revolutions in western history which come readily to mind—those in the city states and empires of the ancient world the Peasants' Revolt in Germany in the 15th century the rebellion led by Cromwell in 17th century England the American and French Revolutions in the 18th century the Russian and the Spanish Revolutions in our own time—have been affairs of bloodshed. Yet neither in political theory nor in historic fact does revolution always involve the use of force or the resort to violence.

Thucydides describes both violent and non-violent revolutions in the alternations of democracy and oligarchy in the constitution of the Greek city states. In England the Great Rebellion which by civil war succeeds in beheading one Stuart king is followed by the Bloodless Revolution of 1688 which without any war at all unseats another. Some of the revolutions in the European states in the middle years of the 19th century are accompanied by barricades and fighting. Some however like the revolutions accomplished by the Reform Bills in England or by constitutional amendments in the United States are fundamental changes in government effected by due process of law by peaceful shifts in the distribution of political power.

A revolution may involve action in defiance of the law and yet be prosecuted without violence on the part of the revolutionists as in the case of the rebellion which Gandhi led against British rule in India by the method of civil disobedience. The use of armed force may not however be the only technique of revolutionary violence. Revolutions are effected in two ways according to Aristotle by force and by

fraud. Though fraud does no physical violence it does violence to the will of those who are deceived. In some cases when fraud is used the citizens are deceived into acquiescing in a change of government and afterwards, Aristotle observes, they are held in subjection against their will. In other cases they may subsequently be persuaded and their alliance and good will won. But as Machiavelli's later consideration of these two techniques of seizure of power indicates, the choice between force and fraud is one of expediency rather than of principle. He recommends guile as an alternative to force, with force held in reserve should cunning fail. Both methods however employ the strategy of warfare.

As opposed to both force and fraud and even to the method of civil disobedience which is outside the law or in violation of it, the writers of *The Federalist* conceive the possibility of a revolutionary process which is at once peaceful and legal. It is precisely because they think that the Constitution of the United States affords the opportunity for achieving political change by constitutional amendment that they defend the clause which guarantees to every State in this Union a republican form of government, and promises to protect each of them upon application to the federal government against domestic violence. To the objection that such a guaranty may involve an officious interference in the domestic concerns of the members, Hamilton replies: "It could be no impediment to reforms of the State constitutions by a majority of the people in a legal and peaceable mode. This right would remain undiminished. The guaranty could only operate against change to be effected by violence. Towards the prevention of calamities of this kind too many checks cannot be provided."

In another of the *Federalist* papers, Madison

considers the possibility of an insurrection pervading all the States and comprising a superiority of the entire force though not a constitutional right. He thinks such a case beyond the compass of human remedies. It is enough if the Constitution diminishes the risk of a calamity for which no possible constitution can provide a cure. Nor does a conflagration through a whole nation or through a very large proportion of it proceeding either from weighty causes of discontent given by the government or from the contagion of some violent popular paroxysm seem to Hamilton to fall within any ordinary rules of calculation. In his estimation no form of government can always either avoid or control such revolutions. But he adds where the whole power of the government is in the hands of the people there is the less pretence for the use of violent remedies in partial or occasional distempers of the State.

WHEN ARISTOTLE THINKS of revolutions as taking place without violence he does not have in mind the strictly modern device of constitutional amendment. Political change he suggests may be the result of accidents rather than of planned actions. Political revolutions he writes sometimes spring from a disproportionate increase in any part of the state. And this disproportion may sometimes happen by accident — at Terentium from a defeat in which many of the notables were slain in a battle with the Iapygians just after the Persian War the constitutional government in consequence becoming a democracy. Or when the rich grow numerous or properties increase the form of government changes into an oligarchy or a government of families.

On the other hand to writers like Hobbes and Locke revolution means war and is inseparable from violence. Those who deny the authority of the Commonwealth — apart from which according to Hobbes men live in a state of war — by renouncing their subjection to the Sovereign relapse into the condition of war commonly called Rebellion. For rebellion is but war renewed. Unlike bees and ants the peace of whose societies is never threatened by rebellion there are amongst men very many that think themselves wiser and abler to govern the public better than the rest and

these strive to reform and innovate one this way another that way and thereby bring it into distraction and civil war.

Locke's principle seems to be that whoever uses force without right — as everyone does in society who does it without law — puts himself into a state of war with those against whom he so uses it. Having entered into society and introduced laws for the preservation of property peace and unity amongst themselves men who set up force again in opposition to the laws *do rebellare* — that is bring back again the state of war — and are properly rebels.

Aquinas also seems to align revolution (which he calls *sedition*) with war and strife though he thinks it differs from them in two respects.

First because war and strife denote actual aggression on either side whereas sedition may be said to denote either actual aggression or the preparation for such aggression. Secondly they differ in that war is properly speaking carried on against external foes being as it were between one people and another whereas strife is between one individual and another while sedition in its proper sense is between the mutually dissentient parts of one people as when one part of the state rises in tumult against another part.

THOUGH THE WORD revolution may be used in both senses it nevertheless seems to be the case that traditional discussions of the causes and prevention of revolution theories of revolutionary strategy and tactics and the great issue of the right of rebellion all seem to contemplate the resort to or at least the threat of force to gain an end. This also seems to be implied in the popular conception of the difference between revolution and evolution.

The contrast between revolution and evolution may explain why the note of violence disorder or disruption colors the idea of revolution. The word evolution usually signifies change which is gradual and which tends in one direction rather than another that direction being for the most part toward a progressive development of changes already accomplished. Revolution is abrupt. Revolution is an occurrence either directed against the tide as well as the it. As action and reaction can be equal and opposite in physical motion so in social change



revolution and counter revolution can aim in opposite directions. In either case, whether revolution reverses the direction of change or precipitates a radical transformation toward which things are moving too slowly, revolution seems to involve *overthrowing* the established order rather than *developing* its latent tendencies.

It is in this sense that the revolutionist is a radical. He may also be a reactionary in the sense that the radical change he is willing to use force to achieve is a return to some earlier condition rather than one which, in the judgment of his opponents, is in the line of progress or evolution. But whether reactionary or progressive the revolutionist is never conservative. If the established order does not submit readily to the radical change which a revolutionary person or party seeks, or if it resists, it must be forced to yield. The revolutionist can be reluctant to use force, but he can never forswear it entirely.

This seems to be the sense in which Marx and Engels conceive the program of the *Communist Manifesto* as a revolutionary program. Their conception of a revolutionary class or party is not, however, limited to the proletariat in their struggle against the bourgeoisie. They apply it to the bourgeoisie, not in the contemporary world when the established order of capitalism makes the bourgeoisie conservative or reactionary, but in the 18th century when the bourgeoisie overthrew the landed aristocracy.

The bourgeoisie, they write, historically has played a most revolutionary part. The French revolution, for example, abolished feudal property in favor of bourgeois property. And again: When Christian ideas succumbed in the 18th century to the rationalist ideas, feudal society fought its death battle with the then revolutionary bourgeoisie. That the French Revolution represents the struggle not between the propertied and the propertyless classes, but between two propertied classes—the bourgeoisie and the aristocrats—seems evident to Marx in the fact that, during the very first storms of the revolution, the French Bourgeoisie dared to take away from the workers the right of association just acquired.

NO LESS THAN THE *Communist Manifesto*, the American Declaration of Independence is a rev-

olutionary document. Its signers are prepared to use force to overthrow the established order which, in their view, has worked grievous iniquities and injustices upon the colonies. But in the Marxist view, the rebellion of the colonists, unlike the French Revolution, is political rather than economic, even if it has economic as well as political motivations. This distinctness between economic and political revolution seems to be peculiarly modern.

It is not that the ancients—Thucydides, Plato and Aristotle, for example—fail to recognize the class war which is paramount for Marx. They observe (as is indicated in the chapter on OLIGARCHY) the struggle between the rich and the poor for control of the state. They know that the opponents in the frequent and violent revolutions which disturbed the Greek city-states are the oligarchs and the democrats—the men of great property and the men of little or none.

The revolt of the Helots in Sparta is the exceptional case of a rebellion of slaves against their masters. For the most part, the struggle is between free men belonging to different economic classes. The oligarchical and democratic revolutions which these classes in society ferment are political in the sense of seeking to change the constitution rather than the economic system itself, even though the constitutional changes may have economic as well as political effects. In the opinion of some Aristotle reports, the regulation of property is the chief point of all, that being the question upon which all revolutions turn.

Aristotle is willing to admit that "the equalization of property may prevent the citizens from quarrelling," but he does not think that economic injustice is the only cause of revolution or economic justice its absolute cure.

The avarice of mankind, he writes, is insatiable; at one time two obols was pay enough, but now, when this sum has become customary, men always want more and more without end, for it is of the nature of desire not to be satisfied, and most men live only for the gratification of it. The beginning of reform, in his opinion, is not so much to equalize property as to train the nobler sorts of natures not to desire more, and to prevent the lower from getting more, that is to say, they must be kept

lowed but not ill treated. Such a reform would hardly cure the evil of chattel slavery. That requires a revolution which effects the equalization of political status, not the equalization of property.

If a rebellion of slaves in the ancient world had succeeded in abolishing the institution of slavery, it would have been, in the modern view, an economic as well as a political revolution, for it would have radically altered the mode of production. It is in this sense that what Adam Smith describes as the change from an agrarian to a manufacturing economy is strictly an economic revolution, though it is Marx, not Smith, who gives currency to the word "revolution," as used in this sense. It is exemplified in our common understanding of the phrase "the industrial revolution," which refers to the radical change in an economy based on manufactures when mass production by machines in factories replaces the system of production by workers using their own tools in their own homes.

In manufacture, writes Marx, the revolution in the mode of production begins with labor power; in modern industry it begins with the instruments of labor. Our first inquiry then is: how the instruments of labor are converted from tools into machines, or what is the difference between a machine and the implements of a handicraft? But for Marx the meaning of economic revolution is not limited to radical changes in the physical conditions of production. Such changes necessarily involve equally radical changes in the social relationships of economic classes and in their possession of political power. In the *Manifesto*, the modern bourgeoisie is said to be itself the product of a long course of development of a series of revolutions in the modes of production and exchange. The bourgeoisie in turn cannot exist without constantly revolutionizing the instruments of production and thereby the relations of production and with them the whole relations of society.

According to Marx and Engels, each step in the development of the bourgeoisie was accompanied by a corresponding political advance of that class. An oppressed class under the sway of the feudal nobility, an armed and self-governing association in the mediæval com-

mune afterwards in the period of manufacture proper, serving either the semi-feudal or the absolute monarchy as a counterpoise against the nobility, the bourgeoisie has at last, since the establishment of Modern Industry and of the world market, conquered for itself in the modern representative State exclusive political sway.

ON THE QUESTION whether economic revolutions in their social and political aspects require violence, the writers of the *Manifesto* seem to be unambiguous—at least so far as the communist program is concerned. Since the Communist revolution is the most radical rupture with traditional property relations and involves the most radical rupture with traditional ideas, it can hardly be expected to occur without open warfare, no less violent than the earlier struggle of the bourgeoisie against the aristocrats. Standing face to face with the bourgeoisie today, the proletariat alone is a really revolutionary class, in whose development Marx and Engels see the transition from a more or less veiled civil war raging within existing society up to the point where that war breaks out into open revolution, and where the violent overthrow of the bourgeoisie lays the foundation for the sway of the proletariat.

It is precisely on the use of force that the *Manifesto* distinguishes between communism and socialism, especially the utopian variety of the latter. The Socialists reject all political and especially all revolutionary action; they wish to attain their ends by peaceful means and endeavor by small experiments, necessarily doomed to failure, and by the force of example to pave the way for the new social Gospel. They therefore endeavor and that consistently to deaden the class struggle and to reconcile the class antagonisms. Communist strategy on the contrary everywhere supports every revolutionary movement against the existing social and political order of things. The Communists disdain to conceal their views and aims. They openly declare that their ends can be attained only by the forcible overthrow of all existing social conditions.

Though fundamentally economic, the communist revolution cannot help having political effects. Political power, according to Marx

and Engels — merely the organized power of one class for oppressing another. This applies to the proletariat's conquest of power. Yet they also seem to think that the dictatorship of the proletariat is only a temporary phase in the communist revolution. If the proletariat during its contest with the bourgeoisie is compelled by the force of circumstances to organize itself as a class, if by means of a revolution it makes itself the ruling class and as such sweeps away by force the old conditions of production, then it will, along with these conditions, have swept away the conditions for the existence of class antagonisms and of classes generally, and will thereby have abolished its own supremacy as a class. In aiming at the economically classless society with the consequent transformation of the state, the communist program seems to conceive its revolution as abolishing the possibility of or need for any further revolutions, peaceful or violent, economic or political.

IN ADDITION TO the issues raised by the economic theory and history which underlie revolutionary communism, there is the debatable question whether an economically classless society means the withering away of the state, or at least such changes in political institutions that revolution would cease to be possible or necessary. Even a hypothetical consideration of this question seems to call for attention to the various ways in which political revolutions take place. With the advent of the classless society, no opportunity would remain, at least in theory, for the type of revolution in which one ruling class replaces another. But in such a society it is still conceivable that the equivalent of a palace revolution might substitute one ruling individual for another—by the old-fashioned methods of assassination or usurpation.

For Aristotle, however, all revolutions which produce a change from one form of government to another also involve the replacement of one ruling class by another. He distinguishes between such revolutions as affect the constitution, when men seek to change from an existing form into some other, for example, from democracy into oligarchy, or from oligarchy into democracy, and those revolutions which do not affect the constitution when men, without disturbing the form of government, whether

oligarchy or monarchy or any other, try to get the administration into their own hands. To these two types of revolution Aristotle adds a third, which may be directed against only a portion of the constitution, e.g., the establishment or overthrow of a particular office, as at Sparta. It is said that Lysander attempted to overthrow the monarchy and king Pausanias the ephorality.

Conceivably, any of these political changes might be accomplished without violence. In modern constitutional states, the basic principle of constitutions can be changed from oligarchy to democracy by amendment or by reforms which extend the franchise. The structure of the government as to its offices or their organization can be changed by some form of peaceful plebiscite. As the Federalists point out, the polls provide a natural cure for a bad administration in a popular or representative constitution, namely, a change of men. But such changes of government in the ancient city-states, even when constitutional, proved to Aristotle to be revolutionary in the double sense of involving violence or the threat of it, and of being radical transformations of the polity. What is true of constitutional changes in ancient republics is also true of monarchies and tyrannies, both ancient and modern.

When absolute power is concentrated in the hands of one man, his subjects are necessarily without juridical means for redressing their grievances by changing the occupant of the throne, much less for abolishing the monarchy entirely in favor of self-government. Machiavelli's advice to the prince on safeguarding his power against usurping rivals or rebellious subjects seems to be written against the background of force and fraud as the normal method of changing rulers or modes of rule. They are the very same methods which the prince in power must employ to maintain his position.

There are two ways of contesting. Machiavelli writes, "the one by law, the other by force." The first method is proper to men, the second to beasts, but because the first is frequently not sufficient, it is necessary to have recourse to the second. Therefore it is necessary for a prince to understand how to avail himself of the beast and the man. Being compelled to know, he is obliged to adopt the beast [a prince] ought to

to choose the fox and the lion because the lion cannot defend himself against snares and the fox cannot defend himself against wolves. It follows according to Machiavelli that the prince seldom can be though he should always try to appear to be merciful faithful humane religious upright. A prince especially a new one cannot observe all those things for which men are esteemed being often forced in order to maintain the state to act contrary to fidelity friendship humanity and religion.

The stories of oriental despotism told by Herodotus the account of the Caesars given by Tacitus and Gibbon the chronicle of the English monarchy in the historical plays of Shakespeare all seem to indicate that crowns seldom change heads without bloodshed. Machiavelli's rules for the prince do not greatly enlarge upon Aristotle's description of the arts by which the tyrant preserves his power. Even when Aristotle proposes as an alternative method that the tyrant can try to be benevolent he adds the Machiavellian suggestion that the tyrant should at least appear to act like a good king.

The tyrant Aristotle writes should lop off those who are too high. He must put to death men of spirit. He must be on his guard against anything which is likely to inspire either courage or confidence among his subjects. He must prohibit literary assemblies or other meetings for discussion and he must take every means to prevent people from knowing one another. After enumerating many similar practices which he calls Persian and barbaric arts Aristotle concludes that there is no wickedness too great for the tyrant if he is to maintain himself in power.

These matters are more fully discussed in the chapter on TYRANNY. In our present consideration of the types of revolution we must note one other political change which usually involves the widespread turbulence of civil war. That is the rebellion of subject peoples against their imperial masters. Unlike civil uprisings which seek to overthrow governments or effect a change in the ruling classes or persons these wars of rebellion seek to liberate one people from another or to establish the independence of colonies at the expense of empire.

Still another type of insurrection aims at the dissolution of the state itself. What Rousseau

deals with in theory as the degeneration of the state into anarchy by the repudiation of the social contract calls to mind no historic examples but the few historic instances of wars of secession certainly illustrate the point. They aim to dissolve a federal state by severing ties of union which have something like a contractual character.

The distinction between these types of civil war may be clear in theory yet difficult to apply to historic cases. Which sort of insurrection—a rebellion of colonies or a secession of states—does the Declaration of Independence announce? A theory current among American political writers in 1775 suggests that the thirteen colonies claimed the status of self governing dominions in a confederacy united under the British crown. On this theory does the principle stated in the Declaration—that it is sometimes necessary for one people to dissolve the political bands which have connected them with another and to assume among the powers of the earth the separate and equal station to which the laws of nature and of nature's God entitle them—cover the secession of the Southern states from the American union as well as the revolt of the American states from Great Britain or the British Commonwealth of nations? Questions of fact are involved of course in any comparison of the Revolutionary War of 1776 and the war between the states in 1861 but the question of principle turns on the whole issue of whether revolution is a matter of might or right.

THE RIGHT OF REVOLUTION does not seem to be a central consideration in ancient political theory. The ancient discussion of revolutions appears to be more concerned with their causes their methods and their prevention. This does not mean that the ancients treat revolutions entirely as contests for power. On the contrary Aristotle declares that the universal and chief cause of the revolutionary impulse is the desire of equality. When men think that they are equal to others who have more than themselves or again the desire of inequality and superiority when conceiving themselves to be superior they think that they have not more but the same or less than the others—pretensions which may or may not be just.

Nevertheless Aristotle's elaborate treatise on revolution in the fifth book of his *Politics* deals alike with revolutions that spring from real and from fancied injustices. The object of his inquiry seems to be what modes of destruction apply to particular states and out of what and into what they mostly change also what are the modes of preservation in states generally or in a particular state and by what means each state may be best preserved — not how revolution can be justified or why rebellion is the crime of treason or the folly of anarchy. Such questions seem to come to the foreground in modern political theory though they also have a certain prominence in mediaeval teaching.

Aquinas for example holds that sedition is a special kind of sin because it is opposed to a special kind of good namely the unity and peace of a people. He qualifies this however in the case of an uprising against tyranny even if it involves civil strife. Since in his view a tyrannical government is not just because it is directed not to the common good but to the private good of the ruler there is no sedition in disturbing a government of this kind unless indeed the tyrant's rule be disturbed so inordinately that his subjects suffer greater harm from the consequent disturbance than from the tyrant's government. Indeed Aquinas writes it is the tyrant rather who is guilty of sedition since he encourages discord and sedition among his subjects that he may lord over them more securely.

Holding that the end of government is the good of mankind Locke asks in a similar vein which is better that the people should be always exposed to the boundless will of tyranny or that the rulers should be sometimes liable to be opposed when they grow exorbitant in the use of their power and employ it for the destruction and not the preservation of the property of their people? Since force is to be opposed to nothing but unjust and unlawful force Locke argues that a king may be resisted when he exceeds his authority or prerogative and uses his power unlawfully. Since such a king

has dethroned himself and put himself in a state of war with his people what shall hinder them from prosecuting him who is no king as they would any other man who has put himself into a state of war with them?

The right to resist a tyrant or a kind of despotic may lead to regicide but this seems so different to Locke from the punishment of any other criminal. He who may resist must be allowed to strike and forthwith Locke continues he has a right when he prevails to punish the offender both for the breach of the peace and all the evils that followed upon it. Rousseau is even less hesitant to condone regicide. The contract of government is so completely dissolved by despotism writes Rousseau that the despot is master or so long as he remains the strongest as soon as he can be expelled he has no right to complain of violence. The popular insurrection that ends in the death or deposition of a sultan is as lawful an act as those by which he disposed of the ruler before of the life and fortunes of his subjects. As he was maintained by force alone it is force alone that overthrows him.

Those who say that it may occasion civil wars or intestine broils to tell the people they are absolved from obedience when illegal attempts are made upon their liberties of property may as well say upon the same ground in Locke's opinion that honest men may not oppose robbers and pirates because this may occasion disorder or bloodshed. Nor does Locke think that the right to resist injustice means that governments will be overthrown upon every little mismanagement in public affairs. Great mistakes in the ruling part, he writes many wrong and inconvenient laws, and all the slips of human frailty will be borne by the people without mutiny or murmur. But if a long train of abuses prevarications and artifices all tending the same way make the design visible to the people it is not to be wondered that they should then rouse themselves and endeavor to put the rule in such hands which may secure to them the ends for which government was at first erected.

Hence to those who say that his revolutionary principle lays a perpetual foundation for disorder Locke replies that it will never operate until the inconvenience is so great that the majority feel it and are weary of it and find it necessary to have it amended. Rebellions will occur only when the majority feel that the laws and with them their estates liberties and lives are in danger and perhaps their religion.

too and so will exercise their natural right to resist with force if necessary the illegal force used against them. But strictly it is not the people who rebel rather it is they who put down the sedition of the tyrant.

What Locke states as a right of resistance the Declaration of Independence seems to put more positively as a right of rebellion apparently deducing it from other natural rights—of life liberty and the pursuit of happiness. It is to secure these rights that governments are instituted among men so that whenever any form of government becomes destructive of these ends it is the right of the people to alter or to abolish it and to institute a new government. The Declaration admits that governments long established should not be changed for light and transient causes but when a people suffer a long train of abuses and usurpations it is their right it is their duty to throw off such government and to provide new guards for their security.

AGAINST SUCH REVOLUTIONARY sentiments or principles Hobbes, Kant and Hegel seem to take a stand though in each case they place some qualification on their denial of a right of resistance or rebellion. Hobbes for example denies the right of men to change their form of government or of subjects to resist their Sovereign *except for the sake of self preservation*. When men covenant to form a commonwealth they are bound. Hobbes says to uphold the actions and judgments of the Sovereign they have created they cannot lawfully make a new covenant amongst themselves to be obedient to any other without his permission. They that are subjects to a monarch cannot without his leave cast off monarchy and return to the confusion of a divided multitude.

Furthermore because every subject is by this institution author of all the actions and judgments of the Sovereign instituted it follows according to Hobbes that whatsoever he doeth it can be no injury to any of his subjects nor ought he to be by any of them accused of injustice. Yet every subject has liberty in all those things the right whereof cannot by covenant be transferred such as the right of a man to defend his own body to resist those that assault him or to have access to

food air medicine or any other thing without which he cannot live.

Kant disallows rebellion as a matter of right unless resistance is required to fulfill a moral duty outside the sphere of public right. Obey the authority which has power over you (in everything which is not opposed to morality) is a Categorical Imperative. Hence though a juridical constitution may be vitiated by great defects and coarse errors it is nevertheless absolutely unallowable and punishable to resist it.

Since in his view public right is founded on the institution of a sovereign will uniting all particular wills by one law Kant argues that to allow a right of resistance to this sovereignty and to limit its power is a contradiction. It should be remembered also that for Kant the only legitimate form of government is a republic resting on the foundation of popular sovereignty. Kant is not considering resistance to tyrannical or despotic power which lacks all juridical authority.

A similar qualification appears in Hegel's distinction between the rebellion of a conquered people and revolution in a well organized state. Only the latter action is a crime for only the latter situation corresponds to the Idea of the state—fully realized for Hegel only in a constitutional monarchy never in a despotism or tyranny. A rebellion in a province conquered by war he says is a different thing from a rising in a well-organized state. It is not against their prince that the conquered are in rebellion and they are committing no crime against the state because their connexion with their master is not a connexion within the Idea or one within the inner necessity of the constitution. In such a case there is only a contract, no political tie.

With such qualifications on their position those who disfavor revolution or deny its basis in right may not be completely opposed to those who apparently think rebellions can be justified. There may be qualifications on the other side too. Aquinas for example justifies sedition not against any government or ruler but only against tyranny. The signers of the Declaration of Independence speak of a right to alter or abolish any form of government but the writers of the Federalist papers do not seem equally willing to acknowledge a right to overthrow the Constitution of the United States.

## OUTLINE OF TOPICS

### 1 The nature of revolution

- 1a The issue concerning violent and peaceful means for accomplishing social, political or economic change
- 1b The definition of treason or sedition: the revolutionist as a treasonable conspirator
- 1c Revolution and counter revolution: civil strife distinguished from war between states

### 2 The nature of political revolutions

- 2a Change in the form of government or constitution
- 2b Change in the persons holding power: deposition, assassination, usurpation
- 2c Change in the extent of the state or empire: dissolution, secession, liberation, federation

### 3 The process of political revolution

- 3a The aim of political revolution: the seizure of power, the attainment of liberty, justice, equality
- 3b Ways of retaining power and combatting revolution
- 3c The causes and effects of revolution under different forms of government
  - (1) Revolution in monarchies
  - (2) Revolutions in republics, aristocracies, oligarchies and democracies
  - (3) Rebellion against tyranny and despotism

### 4 The nature of economic revolutions

- 4a Change in the condition of the oppressed or exploited: the emancipation of slaves, serfs, proletariat
- 4b Change in the economic order: modification or overthrow of a system of production and distribution

### 5 The strategy of economic revolution

- 5a Revolution as an expression of the class struggle: rich and poor, nobles and commons, owners and workers
- 5b The organization of a revolutionary class: the bourgeoisie and the proletariat as revolutionary classes in relation to different economic systems
- 5c The classless society as the goal of economic revolution: the transformation of the state

### 6 The justice of revolution

- 6a The right of rebellion: the circumstances justifying civil disobedience or violent insurrection
- 6b The right to abrogate the social contract or to secede from a federation

### 7 Empire and revolution: the justification of colonial rebellion and the defense of imperialism

## REFERENCES

To find the passages cited use the numbers in heavy type, which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Iliad* BK II [265 283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE CITATIONS** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS** One or more of the main divisions of a work (such as PART BK C or) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* BK II [265 283] 12d.

**BIBLIOGRAPHIC REFERENCES** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT Nehemiah 7 45—(D) II Esdras 7 46.

**SYMBOLS** The abbreviation esp call the reader's attention to one or more especially relevant part of a whole reference *passim* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Guide to Ideas* consult the Preface.

## The nature of revolution

The social conceiving violent and peaceful means for accomplishing social political or economic change

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7 PLATO *Apology* 200a 212a c esp 203 / C to 216d 219a c / *Statesman* 600d 601c / *Seventh Letter* 804a II

9 ARISTOTLE *Politics* K II CH 10 [ 272<sup>b2</sup> 6] 488d-489a BK IV CH 5 [1292<sup>b</sup> 22] 492a BK CH 3 [ 303 14 24] 504c d CH 4 [ 304<sup>b8</sup> 17] 506b

14 PLUTARCH *Lycurgus* 34b d / *Lycander* Sull 387b d 388a / *Cleomenes* 660b 661a / *Tiberius* Gracchus 674c-681 c

10 AQUINAS *Summa Theologica* PART I-II Q 97 A 1 2 236a 237b

21 DIONYSIUS *Antisthenes Comedy* H L XXVIII 41b-43a

23 MACHIAVELLI *Prince* CH VI 9b

23 HUBER *Letters* CH I 154b-c

25 MONTAIGNE *Essays* 47a 51 318c 319b 462c-465

30 BACON *Novum Organum* BK I APH 9 124d 125a

31 DESCARTES *Discourse* PART II 45b-46a

35 LOCKE *Civil Government* CH XVIII 3 CT 2 3-2 0 72 73c CH XIX SECT 225 239 77a 81b

38 ROUSSEAU *Inequality* 361c 362a

40 GORDON *Decline and Fall* 292b-d

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42 KANT *Science of Right* 439a-441d esp 441b c 450d-451 457d-458a II

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43 MILL *Representative Government* 344a-c

46 HEGEL *Philosophy of Right* ADDITIONS 176 147 d / *Philosophy of History* PART II 280b-281b

ART II 307b 308a PART V 321d 322a 364a

50 MARX ENGELS *Communist Manifesto* 416b d 432b-434d

51 TOLSTOY *What is Art* K VI 244d 245 EPILOGUE 668a 669d

52 DOS TOEVSKY *Brothers Karamazov* BK VI 165c

54 FREUD *New Introductory* 883d 884c



*The nature of revolution*

The definition of the son or sedit on the revolutionist as a treasonable conspirator

- 6 HERODOTUS *History* BK V 186a d  
 6 THUCYDIDES *Peloponnesian War* BK I 381a  
 381a BK VI 519c 520d 525b d 532d 534c  
 BK VIII 574d 576c 579d 581c  
 7 PLATO *Republic* K V 367c d  
 14 PLUTARCH *Salon* 71d / *Popl cola* 81d /  
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*lunus* 193a 195a c / *Cicero* 708a 713a / *Marcus*  
*Brutus* 802b d 824a  
 18 AUGUSTINE *City of God* BK XIX CH 12  
 517c d  
 20 AQUINAS *Summa Theologica* PART II II Q  
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 121d 122b 146 B 147 153c  
 26 SHAKESPEARE *2nd Henry VI* ACT I SC I I  
 [170-227] 39b 40a ACT II SC III [86-108]  
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 342c 343a / *1st Henry IV* ACT V SC II [125]  
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 35 LOCKE *Toleracion* 14d / *Civil Government*  
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 36 SWIFT *Gulliver* PART I 33a 38a PART III  
 114b 115b  
 38 MONTESQUIEU *Spirit of Laws* BK XII 88a  
 90c  
 38 ROUSSEAU *Social Contract* BK II 398d  
 40 GIBSON *Decline and Fall* 251d 474c 475a  
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 588a  
 42 HART *Science of Rights* 439a-441d 450d  
 451a  
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 SECT 3 15d 16a B COMMENTS XIV SECT 2 4  
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 43 MILL *Liberty* 274b d [in ]  
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 47 GOETHE *Faust* PART II [4812 4830] 119b  
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 669d

1c Revolution and counter revolution civil  
 strife distinguished from war between  
 states

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 579c 583c 585d 586b 587a 589a 590a c  
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 31b  
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 21d / *2nd Henry VI* 33a 68d esp ACT I SC I  
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 esp ACT I SC I 69a 72d / *Richard III* 105  
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 60d 61a CH XIX SECT 224 243 76d 81d esp  
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 428a b

## 2 The nature of political revolutions

2a Change in the form of government or con-  
 stitution

- OLD TESTAMENT *1 Samuel* 8-(D) I K 8 8  
 6 HERODOTUS *History* BK I 14 c BK III 107c  
 108d BK V 167a b 171c 172c 177d 180a  
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- 11 PLUTARCH *Lycurgus* 32d 35d / *Solon* 68d 71d / *Timoleon* 195a 213d esp 205d 207a / *Lysander* 354b d 368a = esp 359c 361a / *Pompey* 499a 538a c / *Caesar* 577a 604d / *Cato the Younger* 620a 648a c / *Cleomenes* 657a 663c / *Dion* 781b d 802a =
- 15 TITUS AULIUS *Prince* CH XXVI 36b-37d
- 23 HOBBS *Leviathan* PART II 150b 151a 154b c
- 25 MONTAGNE *Essays* 47a 51a 462c-465c 504c 506a
- 35 LOCKE *Civil Government* CH XIII SECT 149 59b-d S CT 155 60d-61a CH XIV 73d 81d passim
- 38 MONTEQUIEU *Spirit of Laws* BK VIII 51a 53d BK X 76c 78a
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- 43 CONSTITUTION OF THE U.S. ARTICLE IV BK I 416b-c
- 43 FEDERALIST NUMBER 14 62a d NUMBER 21 78d 79b NUMBER 43 141a 142d 143b 144a NUMBER 49-50 159b 162
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- 46 HUME *Philosophy of Right* PART I par 58 81 = ADDITION 166 145b / *Philosophy of History* INTRO 203b 206a c PART III 294c 295a 300 301 PART IV 355d 357a 364a c
- 46 MARX ENGELS *Communist Manifesto* 424c d
- 51 TOLSTOY *War and Peace* BK VI 238c 243d 260a 262a = OGU 1 668a 669d
- 2 Change = the persons holding power depose or usurpation
- Old Testament Judges 9 / II Samuel 15 18-  
(D) II Kings 5 8 / I Kings 1 15 16 8 0
- (D) III Kings 12 1 25 16 8 20 / II Kings 8 7 15 9 1 10 11 11 1 16 18 19-21 14 17-21 15 8 10 13 14 23 26 30 21 18-26—(D) IV Kings 8 7 15 9 1 10 11 11 1 16 12 19-21 14 17 1 15 8 10 13 14 23 26 30 21 18 26 / II Chronicles 23—(D) II Paralipomenon 10 23
- 5 Aeschylus *Prometheus Bound* [199-243] 42b c
- 5 ARISTOPHANES *Ecclesiazusae* 615a 628d esp [1-570] 615a 621b
- 6 HERODOTUS *History* BK I 2 3d 12b 13b BK II 84a 86a BK III 120b c BK V 164d 165a 171c 172c 177d 180a 182a
- 6 THUCYDIDES *Peloponnesian War* BK VI 523c 524d
- 7 PLATO *Seventh Letter* 813d 814c
- 9 ARISTOTLE *Politics* K II CH 10 [1272<sup>b</sup>10] 468d-469 K V CH 1 [1301<sup>b</sup>4 13] 502d CH 10 [131<sup>2</sup>28 312 39] 513c 514d BK VII CH 14 [1333<sup>b</sup>28 38] 538c d
- 14 PLUTARCH *Peloponnesian War* 77a 81c / *Caesar* 577a 604d / *Sulla* 369a 374a 382a 387a c / *Crassus* 440a 445d / *Sertorius* 469a 470d / *Pompey* 499a 538a c / *Caesar* 577a 604d / *Cato the Younger* 620a 648a c / *Tiberius* 678b d / *Cicero* 708a 713b / *Antony* 749 755c / *Marcus Brutus* 802b d 824a c esp 803d 811a / *Galba* 859a 869d / *Octavian* 869b d 876d
- 15 TACITUS *Annals* BK XI 102d 103a BK XII 112a 113b K XV 169a 176b / *Historiae* BK 189a 266a
- 18 AUGUSTINE *City of God* BK III CH 15-16 176d 178d
- 23 MARSHALL *Principles* CH VII 12d 14 CH X 15d 16a
- 23 HOBBS *Leviathan* PART I 78b PART 152b c 159 -c
- 26 SHAKESPEARE *1st Henry VI* ACT II SC V [33-129] 13b 14a / *2nd Henry VI* ACT I SC I [51-259] 35b 36b ACT SC II 43-44c A III SC 47a 51a / *3rd Henry VI* 69a 104d / *Richard III* 105a 148 / *Richard II* 320a 351d / *1st Henry IV* 434a 466d / *2d Henry IV* 467a 502d esp ACT IV C I 487b 489d / *Julius Caesar* 568a 596a ep ACT II SC [0-19] 574c 576 A III SC 580b 583
- 27 SHAKESPEARE *Macbeth* 284a 310d esp ACT IV SC I 303b 306b / *Tempest* ACT I CH [6-148] 525b 526d ACT II SC I [270-296] 534 d A IV SC I [1-79] 545c
- 35 LOCKE *Civil Government* CH XVII 70c 71a K XIX 73d 81d passim
- 36 SWIFT *Gulliver* PART II 80b
- 38 RUSSEAU *Inequality* 361c 362a / *Social Contract* BK II 419a 424a d K IV 432 433 438a b
- 40 GIBBS *Decline and Fall* 33d-49a passim esp 39c d 41d-42 c 44b 56 61a esp 56b c 60c 61 63b 64a 69a 79a passim esp

(2) *The nature of political resolutions 2b Change in the persons holding power deposit on assassination usurpation*

69a 70a c 76a 78c 111b 113a 114b d 115b 128a c 159b d 178d passim 386a 387d 436a 438a 489d 491a 515b 518a

41 GIBBON *Decline and Fall* 113c 117b 161a 194d passim esp 166a 167d 189a 194d 428 472b-476b

42 HANT *Science of Right* 440a 441b

43 FEDERALIST NUMBER 16 68a c NUMBER 20 77b NUMBER 21 78d 79b NUMBER 26 93c 94d NUMBER 28 96c 98b NUMBER 29 99b 101a NUMBER 33 108b 109a NUMBER 38 124b 125a NUMBER 44 146c d NUMBER 46 152a 153a NUMBER 48 157b c

43 MILL *Liberty* 268d 274b d [fn 1]

44 BOSWELL *Johnson* 195c d

46 HEC L *Philosophy of History* PART III 294c 295 300c 301c PART IV 359a

51 TOLSTOY *War and Peace* BK I 8d 9a

2c Change in the extent of the state or empire dissolution secession on liberation on federation

OLD TESTAMENT *Judges* 3 14 4 24 6 10 1-11 33 13 1-5 24 25 14 16 / II *Chronicles* 10-11—(D) II *Paralipomenon* 10-11 / *Jeremiah* 41—(D) *Jeremi* 5 41

APOCRYPHA I *Maccabees* 1-9 p. 1m—(D) OT I *Machabees* 1-9 passim / II *Maccabees* 6-13 passim—(D) OT II *Machabees* 6-13 passim

6 HERODOTUS *History* BK III 121c 123c BK V 160 185a NUMBER 186 191c

6 T LUCYDID *Scyllopo nesian* 349a 593 c 14 PLUTARCH *Theseus* 9a d / *Romulus* 20c 28a / *Agamemnon* 480b d-499

15 TITUS *Annals* BK I 17c d 18c 20b BK III 54d 56b BK IV 76a 77c 82d 83b BK XII 116d 117d BK XIV 149a 151b / II *Stories* BK IV 269b 277d c p 269d 270b 283b-292b BK V 297 302a

23 MACHIAVELLI *Prince* CH XXVI 36b 37d

23 HOBBS *Leviathan* PART II 114b 115a

35 LOCKE *Civil Government* CH III SECT III 118 51b 52c XIX SECT 211 73d 74a

38 MONTESQUIEU *Spirit of Laws* BK VIII 57b c BK IX 59b

38 ROUSSEAU *Social Contract* BK II 403a 401a

40 CROMWELL *Decline and Fall* 144d 146 521a b

41 CROMWELL *Decline and Fall* 218c 19a 439d 451c passim 465a-466a 577b-c

43 DECLARATION OF INDEPENDENCE 1a 3b

43 ARTICLES OF CONFEDERATION 5a 9d esp XI 9a

43 CONSTITUTION OF THE U.S. ARTICLE IV S. CY 3 16b AMENDMENTS XI S. CY 2 4 18d 19a

43 FEDERALIST NUMBER 15 16 62d 68d NUMBER 58 181d 182a

43 MILL *Representative Government* 428b-430a

3 The process of political revolution

3a The aims of political revolution the seizure of power the attainment of liberty justice equality

5 ARISTOPHANES *Lysistrata* [476-597] 588d 591a / *Ecclesia usae* [173 240] 617a

6 HERODOTUS *History* BK I 29d 30c BK V 175b

7 PLATO *Seventh Letter* 800d 813d 814c

9 ARISTOTLE *Politics* BK II CH 7 461d-463c esp [1266 31-314] 461d-462b CH 10 [1272 28 16] 468c 469a BK V CH I 4 502a 506b CH III [1316 1 27] 518d 519d / *Athenian Constitution* CH 2 553a CH 5 554d 555a

14 LUTARCH *Timoleon* 195a 213d esp 205d 207a / *Pelopidas* 233d 237b / *Agis* 648b d 656d / *Cleomenes* 657a 663c / *Tiberius Gracchus* 671b d 681a c esp 678b d / *Caius Gracchus* 681b d 689a c / *Dion* 781b d 802a c / *Marcus Brutus* 802b d 824a c esp 811b-d 813d

15 TACITUS *Annals* BK I 4a d 6b 7a 10d 11b BK IV 76a 82d 83a BK VI 89c BK XI 104a c BK XII 112a b 117c d BK XIV 149a b BK XV 169b 174b d / *Historiae* BK I 191a b 195a c 198d 199c 203b-c BK II 215d 216b 224d 225a 233d 235c BK IV 269c 270b 290a c

23 MACHIAVELLI *Prince* CH XXVI 36b-37d

23 HOBBS *Leviathan* PART II 114b 115a

26 SHAKESPEARE *Julius Caesar* 568a 596 c esp ACT I SC III [101 130] 573c d ACT II SC I [10-34] 574c d [16a 183] 576b ACT III SC I [164 176] 582b

35 LOCKE *Toleration* 18c 21c / *Civil Government* CH XIV SECT 166-168 63d 64c CH XVIII XIX 71a 81d passim

36 SWIFT *Gulliver* PART II 80b

38 MONTESQUIEU *Spirit of Laws* BK V 29a BK VIII 54b-c

38 ROUSSEAU *Inequality* 361a 362a / *Civil Co* I act BK II 402c d BK III 418a-419

40 GIBBON *Decline and Fall* 29c d 35a 41b-47a esp 44c 45a 45d-46a 48d 49a 73b c

41 GIBBON *Decline and Fall* 216d 217b 574b-575d

43 DECLARATION OF INDEPENDENCE 1a 3b

43 FEDERALIST NUMBER 45 147d 148b

43 MILL *Liberty* 267d 268b

46 HEC L *Philosophy of History* PART III 299c 301c PART IV 364 c

47 CROMWELL *Fust* PART II [10,212 253] 219b-250b

51 TOLSTOY *War and Peace* BK I 9d 10b EPILOGUE I 666c 669d EPILOGUE II 680b-681a

2 DOSTOYEVSKY *Brothers Karamazov* BK V  
127b 137c passim esp 131a-c 133c 134d

Ways of retaining power and combatting  
revolution

1 D T TAMENT *Exodus* 1 7-22

ПОСРЯ НА І Ма abce 1 31-64 10 22 46—  
(D) OT I M chabes 1 43-67 10 22-46

5 ARISTOPHANES *Wasps* [652-724] 515c 516d

6 H R O T U S *History* BK I 21b 35 36a k  
III 111 b 106a-c 118b 123c BK IV 148a b  
BK V 164 166c d 172 174b 178a 180a  
BK VI 243b-c

6 THUCYDIDES *Peloponnesian War* BK I I  
425-428d k v 491b c

7 PL TO *Seventh Letter* 806d 807b 811b 813d

9 A ISTOTL *Politics* K II CH 7 461d-463  
CH II [ 73<sup>b</sup> 7 24] 470b BK I I CH 13 [1284  
3<sup>b</sup> 34] 482a-483 BK V CH 3 [302<sup>b</sup> 15 20]  
504a CH 8-g 509d 512d CH II 515d 518c  
BK VI CH 5-6 523b 524c

14 PLUTA CH *Romulus* 27c 28d / *Poplicola*  
80d 81c / *Camillus* 119a 121a / *Pericles*  
124 130b / *Corioli* 157b 184c / *Agri-  
laus* 482-484 489b c 495a b / *Pompey*  
521 b / *Cassius* 580b / *Cato the Younger*  
636 d / *Agrippa* 648b d 656d / *Tiberius Grac-  
chus* 671b d 681a c / *Caius Gracchus* 681b d  
689 c / *Cicero* 708a 713b / *Marcus Brutus*  
809b 811a

15 TACITUS *Annals* BK I 2c 3a 6d 15a 21b  
22b BK I 29b d 32d 33d 35 d 38c d k  
I 58d 59a BK IV 68b 69 82 b k v  
155b 156 BK XV 168a c 170d 176b /  
*Historiae* BK I 192d 193a 196d 198 200c  
201b 208b 209d 210b BK 222b c BK  
IV 280 281a

23 MA HIAY LI *Prince* H I 3c 5a CH V  
8a H VI 9b 10 CH V 11b c CH VIII x  
14 16d CH XV XV 22b 31c

24 RABBI *Gantza* a d P ntag uel BK III  
131b d 133b

25 M TAIEN *Essays* 51a 55d 324 326b esp  
326 b

26 S I K S E A R 3 d *Henry VI* CT II SC VI  
[ 1 30] 83b c ACT IV 111 96c 97c / *Richard*  
II CT I SC IV [ 1 96] 340c d / *2nd Henry*  
IV ACT IV S V [ 78 5] 496b d

29 C A N S D N Q U O I PART I 40d

30 B CON *Ad a em n of Lea t g* 78a d

35 LOCKE *Treatise* n 19a d / *Civil Government*  
CH XX T 2 8 75a b CT 226 77a b

36 SW *Gulliver* PART I 37a b PART III  
102b 103a

38 R U S A U P I S I E my 372a 377b /  
*Social Contract* BK II 424 111 k v 432b  
433a

40 G O N *Decline and Fall* 14d 18b 42b d  
43b 50b d 501d 503a 522 523 c 525d  
526 624

41 GIBSON *Decline and Fall* 216c d

43 CONSTITUTION OF THE US ARTICLE IV  
SECT 4 16b c

43 FEDERALIST NUMBER 10 49c 51b passim  
NU BER I 78d 79b NUMBER 23 90a 91d  
NUM 28 96c 98b NU BER 43 141a 142d  
NU BER 46 152a 153a NU BER 55 174c d

43 MILL *Representative Government* 366a c  
425b-426b

46 HEGEL *Philosophy of History* PART I 226d  
227b PART II 263b-d 276d 277a

51 TOLSTOY *War and Peace* EPILOGUE 1 668a  
669d

3c The causes and effects of revolution under  
different forms of government

OLD TESTAMENT I Samuel 7 15-8 5—(D) I  
Kings 7 15-8 5

6 THUCYDIDES *Peloponnesian War* BK III  
427d-428d 436d-438b

7 PLATO *Republic* BK VIII 401d 416a / *Seventh*  
*Letter* 801b c

9 ARISTOTLE *Politics* BK II CH 6 [126<sup>b</sup> 10 12]  
461a CH 7 [126<sup>b</sup> 37 1 67 16] 462a d BK IV  
CH II [129<sup>b</sup> 35-129<sup>b</sup> 12] 496a 111 BK V 502  
519d

15 TACITUS *Histories* BK I 224d 225a BK III  
261b 262a k v 266b c

23 HO *Leviathan* PART I 77a 78c d  
82b d PART II 102d 103a 103 104d 112b d  
114d 115a 116c d 121a 122b 148c 153  
159a-c PART III 240a b PART IV 273a

27 SHAKESPEARE *Troilus and Cressida* ACT I  
S I [ 1 8-1 38] 109a c

30 B CON *Ad a em n of Learning* 78a d

36 SWIFT *Gulliver* PART I 102b 103a

38 MONTESQUIEU *Spirit of Laws* K III 51a  
54b 57b k v 112 114a

38 ROUSSEAU *Inequality* 361a 362a / *Social Con-  
tract* BK II 402b d 404 d BK III 418  
420a

39 S M *Wealth of Nations* BK IV 239a 240b  
262a d 269d 271a k v 308b

40 GIBSON *Decline and Fall* 48d-49a 436a 111

41 GIBSON *Decline and Fall* 559 560d

42 KANT *Doctrine of Right* 439a 441d

43 DECLARATION OF INDEPENDENCE 1a 3b

43 FEDERALIST NUMBER 47 95b 96b NUM.  
BR 48 157b c

43 M L *Liberty* 321b

44 BOSWELL *John* 195 d

46 HEGEL *Philosophy of History* PART IV  
364a

50 MARK ENGELS *Communist Manifesto* 423b-  
425b

3 (1) Revolution in monarchies

6 HERODOTUS *History* K I 21b 24a b K I  
84a d 85b c BK II 107c 108 118b k v  
138a 148a

7 PLATO *Laws* K III 667 672a esp 667 d  
670c 672a

**3c The causes and effects of revolution under different forms of government 3c(1) Revolution in monarchies**

- 9 ARISTOTLE *Politics* BK V CH 10 [1310 39]-CH 11 [1313 33] 512d 516a
- 14 PLUTARCH *Lycurgus* 35c d 47a 48a / *Agesilaus* 482a 485b / *Demetrius* 732a c
- 15 TACITUS *History* BK I 190a 191a 192d 193 193c 194a 195c 198c 201a B 208b c 209d 210b 210d 212d BK IV 266b c
- 18 AUGUSTINE *City of God* BK III CH 15 176d 178a
- 23 MACHIAVELLI *Prince* CH IV 7a 8a CH VI 9b d CH VIII 14a 16a CH XV XX 22b 31c
- 23 HO ES *Letter* PART II 108d 109a 148d 149b 150c 151a 153a 156c 159a c PART IV 273a c
- 26 SHAKESPEARE *1st Henry VI* 1a 32a c esp ACT II SC IV 11b 12d ACT IV SC I [30-113] 20a 21a / *2d Henry VI* 33a 68d esp ACT I SC I 33b d 36b / *3d Henry VI* 69a 104d esp ACT I SC I 69a 72d / *Richard III* 105a 148a c esp ACT V SC V [15 41] 148a c / *Richard II* ACT IV SC I [107 149] 342c 343a / *1st Henry IV* ACT IV SC I 459b-460b ACT V SC I [30-120] 461b 462a / *2nd Henry IV* ACT IV SC I 487b 4 9d
- 35 LO KE *Civil Government* CH XIV SECT 166-168 63d 64 CH XVIII XIX 71a 81d pass m
- 36 SWIFT *Gulliver* PART III 102b 103a
- 38 MONTESQUIEU *Spirit of Laws* BK V 25d 26c BK VII 45c-46a BK VII 53a 54a 56d 57a BK XI 77b-78a BK XIV 212a b
- 38 ROLIN BAU *Social Contract* BK III 419b c
- 40 GIBSON *Decline and Fall* 68b d 69a
- 43 FEDERALIST NO BER 48 157b-c
- 43 MILL *Liberty* 267d 268b
- 44 BOSWELL *Johnson* 120a c
- 51 TOLSTOY *War and Peace* BK VI 238c 243d 60 262a EPILOGUE I 668 669d

**3c(2) Revolution in republics aristocracies oligarchies and democracies**

- 6 HXEROTUS *History* BK V 202d 203b
- 6 THUCYDIDES *Peloponnesian War* BK III 434c 438c esp 436d-438b BK IV 459a-c 463a-465c 466-469b BK V 482d-483a 502d 504b esp 503d 504b BK VI 519c 520d 533 B BK VIII 574d 590c esp 575c 576c 577b d 579c 583c 585d 586b 587a 589a 590a c
- 7 PLATO *Republic* BK VIII 402a-413d / *Laos* BK IX 744c d / *Seventh Letter* 806d 807b
- 9 ARISTOTLE *Politics* BK II CH 9 [1270<sup>b</sup> 34] 466d-467a CH 11 [12 3<sup>b</sup> 17 24] 470b CH 12 [1273<sup>b</sup> 36-1274<sup>a</sup> 22] 470c d BK III CH 13 [1284 3 34] 482a-483a CH 15 [1296<sup>b</sup> 12 16] 485a BK IV CH 5 [1292<sup>b</sup> 11 22] 492a BK V CH 1 [13 1 8 16] 503b c 3 [1302<sup>b</sup> 21 1303 24] 504 d [13 3<sup>b</sup> 5 18] 505 CH 4 [1304 18 29]

505d 506a CH 5-9 506b 512d CH 12 [1316<sup>a</sup> 19-27] 519a d BK VI CH 5-6 523b-524c / *Athenian Constitution* CH I 41 553a 572a passim esp CH 5 554d 555a CH 29 566b d CH 33 34 568b 569a CH 38 570a-c

14 PLUTARCH *Theseus* 13a 14c / *Lycurgus* 35c d 47a 48a / *Lycurgus Numa* 61b d 64a c / *Solon* 68d 70d 75c 76d / *Themistocles* 96b c / *Camillus* 117c 121a c / *Cornelius* 176b 184c / *Lysander* 361a 368a c / *Crispus* 444d 445d / *Pompey* 521c d 525a b 533a B / *Caesar* 581d 582a 588c 589a 590d 591a / *Cato the Younger* 631b c 636c d / *Agri* 648b d 656d / *Cleomenes* 657a 663c / *Ther* 688b d 681a d 681a B esp 680b d / *Caius Gracchus* 681b d 689a c / *Cicero* 708a b / *Antony* 750a B

15 TACITUS *Annals* BK I 1a 2a 3a b BK VI 97b-c / *Historiae* BK II 224d 225a

23 HOBBS *Leviathan* PART II 105c 106b 149a B 152c

38 MONTESQUIEU *Spirit of Laws* BK II 6c 7b BK III 10c 11a BK V 21d 22b 23 25a BK VII 44d 45b BK VIII 51a 53a BK X 64a b BK XII 91c 92b BK XV 114c 115b

38 ROUSSAU *Social Contract* BK III 411b-c 418c-419b

39 SMITH *Wealth of Nations* BK V 308b-c 420b B

43 FEDERALIST NUMBER I 30b NUMBER 9-10 47a 53a NUMBER 15 16 62d 68d NUMBER 17 20 70a 78b NUMBER 21 78d 79b NUMBER 25 90a 91d NUMBER 27 95b c NUMBER 29 99b 101a NUMBER 38 124b-125a NUMBER 43 141a 142d NUMBER 46 152a 153a NUMBER 48 157b c NUMBER 58 181b-182a NUMBER 60 184b d NUMBER 63 194b 195b

43 MILL *Representative Government* 329b-330c 350c 351d 366a 367b

46 HEGEL *Philosophy of History* PART II 276d 277a 278d 279b PART III 300 301c 3 4 IV 355d 357a 364a-c

50 MARK ENGELS *Communism Manifesto* 423d 424b 429c 430b 432b d

**3c(3) Rebellion against tyranny and despotism**

OLD TESTAMENT I Kings 12 1 25-(D) III A gs 12 1 25 / II Chronicles 11-(D) II P al pomenon 10

AVOCATP I I Maccabees 1 1 2 44-(D) OT I Ma habes 1 1 2 44 / II Maccabees 6 1 11 8 1 4-(D) OT II Machabees 6 1 11 8 1 4

6 HXEROTUS *History* BK I 21b 24a b BK IV 148a BK V 170c 172c 178a 180a BK VI 187b-c

6 THUCYDIDES *Peloponnesian War* BK III 523c 524c

7 PLATO *Republic* BK VIII IX 411d-420d

9 ARISTOTLE *Politics* BK V CH 4 [1304 30-35] 506a c 10 [1310<sup>a</sup> 39]-CH 12 [1315<sup>b</sup> 39] 512d 518d B 12 [1316<sup>a</sup> 25 35] 519b / *Athenian Constitution* CH 14 19 558d 561d

- 4 PLUTARCH *Galba* 859a ■
- 5 TACITUS *A nals* BK I 1a-4d BK IV 82a b  
BK XI 102d 103a BK XII 112a ■ BK XV  
169a 176b / *Histories* BA I 200d 202c 205a  
BK II 234b 235a
- 3 HOBBS *Leviathan* PART II 150c 151a PART  
IV 273a b CONCLUSION 280d
- 16 SHAKESPEARE *Richard III* ACT V SC III  
[237 270] 146b c / *Julius Caesar* 568a 596a c  
esp act I SC II [25-177] 569c 571a [215-3 6]  
571c 572c
- 27 SHAKESPEARE *Macbeth* ACT IV SC III [i 49]  
303b 304a
- 15 LOCK *Civil Government* CH XIV SECT 166-  
168 63d 64c CH XVIII XIX 71a 81d passim
- 18 MONTESQUIEU *Spirit of Laws* K V 25d 26c  
28b-29a BK VIII 54a b BK XIX 137c d  
BK XXV 212 li 214a c
- 10 ROUSSEAU *Inequality* 361c 362a / *So ci al*  
*Co tract* BK II 404c d BK III 417b c 419b c
- 40 GIBSON *Decline and Fall* 29b 31a esp 29c  
30a 35c 39d 42b d-44c 49a 50b 51d 56a  
59a 63a-64d 68c 71b 76b 126d 127c 246a  
652d 655c
- 41 GIBSON *Decline and Fall* 113d 115 166a  
167d 464a-466b
- 43 DECLARATION OF INDEPENDENCE 1a 3b
- 43 MILL *Liberty* 274b d [in 1] / *Represent tive*  
*Gover nment* 343b 344d
- 46 HEGEL *Philosophy of History* PART I 230a c
- The nature of economic revolutions
- c Change in the condit on of the oppre sed  
o exploited the emancip t ion of slaves  
serfs prolet riat
- OLD TESTAMENT *Exodus* I 14 / *Deuteronomy*  
26 5-9 / *Jeremiah* 34 8-17—(D) *Jeremias*  
34 8 17
- 6 H RODOTU *History* BK IV 124a d
- 6 THUCYDID s *Pelopon nes an War* BK III  
435b BK IV 467 b K V 482d 483 491b-c
- 7 PLATO *Laus* BK VI 709d
- 9 ARISTOTLE *Pol t cs* BK II CH 9 [ 269 37 b7]  
465c CH [ 272<sup>b</sup> 7 19] 469 CH 12 [1273<sup>b</sup>  
36-1274<sup>a</sup> 12] 470c-d K V CH [ 315 32-39]  
518b / *Athenian Constit ut ion* CH 2 553a c  
CH 5-6 554d 555c
- 14 PLUTARCH *Lycu gus* 36a 37c / *Sol n* 68d  
70c / *Agis* 648d d 656d / *Cl mene* 65T  
671d / *Tiber s Gracchu* 671b d 681a /  
*Ca s G acchu* 681b d 689a
- 15 TACITUS *A nals* K V 70 d BK XIII  
132 c 133 BK XIV 151d 152b
- 27 SHAKESPEARE *Cor olanus* CT I SC I [i 67]  
351a 353a
- 38 MONTESQUIEU *Spir t f Laws* BK XV 112  
113a 114c 115b
- 39 SMITH *Wealth f N tso* BK I 165b-  
175b
- 40 GIBSON *Decl e and Fall* 16d 17b 144a d  
505 509a 628d
- 41 GIBSON *Decline and Fall* 82a ■ 452c  
453a c
- 43 CONSTITUTION OF THE US ARTICLE I SECT  
9 [260 66] 13d ARTICLE IV SECT 2 [529-  
535] 16b AMENDMENTS XIII SECT I XIV  
SECT I 18c
- 43 FEDERALIST NUMBER 42 137b-c
- 43 MILL *Representative Government* 332c 339d  
340c 351d 352b
- 46 HEGEL *Philosophy of History* PART II 276d  
277a PART III 295d 296c 307b 308a
- 50 MARX *Capital* 7b d 79d 80b [in 4] 131a  
146c esp 131a 134d 137a 138b-c 141c  
146b-c 231b 248d passim esp 242d 244a  
248c d 295a d 364a 368b esp 367b 368b
- 50 MARX ENGELS *Communist Manifesto* 415a  
417 c esp 416b d 419b d 422 425b esp  
423c d 424b-425 426b-c 428d-429c
- 51 TOLSTOY *War and Peace* BK V 211a 213a  
216c d BK VI 235a
- 52 DOSTOEVSKY *Brothers Karamazov* BK VI  
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6 THUCYDIDES *Peloponnesian War* BK III 423a b 434c 438c BK IV 463a-465c BK V 482d 483a 503d 504b BK VI 524d 525d BK VIII 564a 593a e passim esp 568d 569a 575c 576c 579c 583c 587a 590c

7 PLATO *Republic* BK IV 343d

■ ARISTOTLE *Politics* BK II CH 6 [1265<sup>b</sup>6-12] 461a CH 7 461d 463c c 19 [1269 37<sup>b</sup>] 465c BK V CH 3 [1303<sup>b</sup>5-8] 505a CH 4 [1304 18<sup>b</sup>6] 505d 506a CH 7 [1306<sup>b</sup>22 1307<sup>a</sup>2] 508c d CH 9 [1310 19-25] 512c CH 10 [1310<sup>b</sup>9-15] 512d 513a CH 12 [1316 39-22] 519c d / *Athenian Constitution* CH 2 553a c CH 5 554d 555a

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## CROSS REFERENCES

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The general problem of the right of rebellion or the right of secession see JUSTICE 10b LAW 6c LIBERTY 6b TYRANNY 3 and for the issue concerning anarchy and the condemnation of the rebel as an anarchist see GOVERNMENT 1a LIBERTY 1b TYRANNY 3

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups:

I Works by authors represented in this collection

II Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

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## Chapter 81 RHETORIC

### INTRODUCTION

RHETORIC is traditionally regarded as one of the liberal arts. When the liberal arts are counted as seven and divided into the three and the four—the *trivium* and the *quadrivium*—rhetoric is grouped with grammar and logic, not with the mathematical arts of arithmetic and geometry, astronomy and music. The implication of this grouping seems to be that rhetoric like grammar has something to do with language or discourse and that like logic it is concerned with thought, with reasoning or argument. But if grammar is the art of writing or speaking correctly and if logic is the art of thinking correctly, it may be wondered what rhetoric can add to these other arts, either on the side of language or of thought.

Logic by itself does not suffice to ensure that words are properly used to express thought, nor does grammar guarantee that discourse which is flawless in syntax also complies with the demands of rationality. Hence neither grammar nor logic seems to challenge the function of the other, as together they challenge the function of rhetoric.

Upon the way this challenge is met depends not only the definition of rhetoric but also the value put upon it. In the tradition of the great books, rhetoric is both praised as a useful discipline which liberally educated men should possess and condemned as a dishonest craft to which decent men would not stoop. Like the words *sophistical* and *dialectical*, the epithet *rhetorical* carries traditionally as well as currently a derogatory implication. The three words sometimes even tend to merge in meaning, expressing the same reproach against trickery. Yet of the three, *sophistical* alone implies an unqualified rebuke.

We do not speak of good and bad sophistry. But dialectic has its defenders as well as its detractors, and even those who like Plato charge

rhetoric with being an art of enchantment or a form of flattery also distinguish between a true and a false rhetoric, the one associated with dialectic as a wholly admirable pursuit, the other classed with sophistry as a vocation divorced from virtue. According to Bacon, the aim of rhetoric is to support reason, not to oppress it. Rhetoric may be misused, but logic also has its abuses. Rhetoric can be no more charged in Bacon's opinion with the coloring of the worse part than logic with sophistry or morality with vice.

THE PURPOSE AND SCOPE of rhetoric are capable of broad and narrow definitions. The broader view, which we shall consider subsequently, tends to merge rhetoric with poetics as together the art of eloquence in any sort of discourse. The narrower view tends to restrict rhetoric to the art of persuasion in the sphere of practical affairs. Rhetorical skill consists in getting others to embrace certain beliefs, to form the opinions or make the judgments which the speaker or writer wishes them to adopt. Usually a union of persuasion is the ultimate goal. The rules of rhetoric are supposed to give one power not merely to move the minds of men to certain conclusions but through persuasion of their minds to move men to act or not act in a certain way.

The sphere of rhetoric so conceived is limited to moral and political problems. The things about which men deliberate before acting, the things on which they pass moral judgments or make political decisions, constitute the subject matter of oratory or what Hobbes calls *exhortation* and *dehortation*, that is *counsel* accompanied with signs in him that give vent to of vehement desire to have it followed.

In the narrower conception rhetoric seems to be confined to *oratory*. It is with oratory and

orators that Socrates seems to be concerned when he discusses rhetoric with Phaedrus or with Gorgias. Gorgias, who was a teacher of rhetoric, praises the power of the orator to persuade the judges in the courts or the senators in the council or the citizens in the assembly or at any other public meeting. In view of this Socrates asks him whether he will accept the definition of rhetoric as the artifice of persuasion. When Gorgias admits that persuasion is the chief end of rhetoric, Socrates goes on to ask whether rhetoric is the only art which brings persuasion or do other arts have the same effect? Does he who teaches anything persuade men of that which he teaches or not? If so then arithmetic as well as rhetoric is an artifice of persuasion.

Gorgias reminds Socrates of his initial point about the orator that rhetoric is the art of persuasion in courts of law and other assemblies about the just and unjust. But Socrates is still not satisfied that rhetoric has been sharply defined. He introduces the distinction between knowledge and belief or opinion and gets Gorgias to agree that whereas there cannot be false knowledge as well as true beliefs and opinions may be either true or false. Persuasion can therefore be of two sorts—one which is the source of belief without knowledge as the other is of knowledge.

Gorgias is willing to limit rhetoric to that form of persuasion which only gives belief to which Socrates adds the emphatic negative that the rhetorician does not instruct the courts of law or other assemblies about things just and unjust but creates beliefs about them. If an assembly wishes to learn about matters connected with medicine or shipbuilding it consults the physician or shipwright, not the orator. But says Gorgias, when a decision has to be given in such matters, the rhetoricians are the advisers; they are the men who in their point. He confirms this by reminding Socrates that the speeches of Themistocles and Pericles, not the suggestions of the builders, determined the Athenian assembly in the construction of the harbor, the docks and walls.

By way of further illustration Gorgias tells of occasions when he has succeeded in getting patients to do what they would not do on the advice of their physicians. I have persuaded

the patient, he says, to do for me what he would not do for the physician just by the use of rhetoric. Similarly in a contest for public office between a rhetorician and a man of any other profession, the rhetorician more than any other would have the power of getting himself chosen for he can speak more persuasively to the multitude than any of them and on any subject. Such is the nature and power of the art of rhetoric!

In comparing it with dialectic Aristotle seems to have a different conception of the function of rhetoric. Neither rhetoric nor dialectic, he says, is the scientific study of any one separate subject; both are faculties for providing arguments. Both also are concerned with arguments which fall short of scientific demonstration that is with matters of opinion concerning which something probable can be said on either side of the issue.

Though for Aristotle rhetoric is the counterpart of dialectic in that both deal with arguments on any subject, his differentiation between the two disciplines seems to indicate that rhetoric is limited to the consideration of oratory in the familiar sense of public speaking. The rhetorician is concerned with persuading an audience, not as the dialectician is with carrying on a dispute in which two individuals may be privately engaged. The persuasion furthermore is directed to obtaining a certain response from that audience—not merely a remark but either action or a decision to act or approval which, charged with emotional force or enthusiasm, has practical significance.

The divisions of rhetoric according to Aristotle are determined by the kinds of oratory as these in turn are determined by the type of audience to be addressed. Of the three elements in speech making—speaker, subject and person addressed, Aristotle writes, it is the last one, the hearer that determines the speech's end and object. The hearer must be either a judge with a decision to make about things past or future or an observer. A member of the assembly decides about future events; a jurymen about past events; while those who merely decide on the orator's skill are observers.

From this it follows that there are three divisions of oratory: (1) political, (2) forensic and (3) the ceremonial oratory of display—or

as these three are sometimes named deliberative legal and epideictic. Political speaking urges us either to do or not do something. Forensic speaking either attacks or defends somebody. The ceremonial oratory of display either praises or censures somebody. These three kinds of rhetoric refer to three different kinds of time. The political orator is concerned with the future: he tries to persuade men about things to be done or not done hereafter. The party in a case at law is concerned with the past: one man accuses the other and the other defends himself with reference to things already done. The ceremonial orator is properly speaking concerned with the present since all men praise or blame in view of the state of things existing at the time though they often find it useful also to recall the past and to make guesses about the future.

Rhetoric has three distinct ends in view: one for each of its three kinds. The political orator aims at establishing the expediency or the harmfulness of a proposed course of action. Parties in a lawsuit aim at establishing the justice or injustice of some action. Those who praise or attack a man aim at proving him worthy of honor or the reverse.

THIS CONCEPTION OF rhetoric as concerned with oratory or public speaking gives one answer to the question of what rhetoric adds to grammar and logic as arts of discourse. In oratory more is involved than the communication of ideas: the marshalling of arguments, the making of proofs. Discourse whether written or spoken has an effect upon the emotions as well as upon the mind and disposes a man to act as well as the mind to assent.

The communicating of ideas by words Berkeley observes is not the chief and only end of language as is commonly supposed. There are other ends as the raising of some passion, the exciting to or deterring from an action, the putting the mind in some particular disposition—to which the former is in many cases barely subservient and sometimes entirely omitted. I entreat the reader to reflect with himself and see if it doth not often happen either in hearing or reading a discourse that the passions of fear, love, hatred, admiration, disdain and the like arise immediately in his mind

upon the perception of certain words without any ideas coming between.

Engaged in the oratorical task of persuading the people of New York to ratify the federal constitution the writers of the Federalist papers are aware that a torrent of angry and malignant passions will be let loose in the debate of that issue. They realize that arguing for the adoption of certain political principles or conclusions is not like teaching geometry: the objects of which are entirely abstracted from those pursuits which stir up and put in motion the unruly passions of the human heart.

Hamilton admits at once in the opening paper that the plan offered to our deliberations affects too many particular interests, innovates upon too many local institutions, not to involve in its discussion a variety of objects foreign to its merits and of views and prejudices little favorable to the discovery of truth. Nevertheless he tries to persuade his audience to judge the issue on the merits of the argument alone.

The opponents of the Constitution, he says, may be actuated by upright intentions. The opposition may spring from sources blameless at least if not respectable—the honest errors of minds led astray by preconceived jealousies and fears. So numerous indeed and so powerful are the causes which serve to give a false bias to the judgment that we upon many occasions see wise and good men on the wrong as well as on the right side of questions of the first magnitude to society.

To recognize this Hamilton tells his audience is to be on guard against all attempts from whatever quarter to influence your decision by any impressions other than those which may result from the evidence of truth. He wishes them to consider him as relying upon nothing but the merits of his case. I frankly acknowledge to you my convictions, he writes, and I will freely lay before you the reasons on which they are founded. My motives must remain in the depository of my own breast. My arguments will be open to all and may be judged by all. They shall at least be offered in a spirit which will not disgrace the use of truth.

We can detect here no other element in the art of rhetoric. The orator comes to be concerned not only with the strength of his argu-

ments and with the passions of the audience which he hopes to move by these arguments but also with the impression he makes upon that audience as a person of good character and honest intentions devoted to the truth and above all to the best interests of those whom he addresses

The great speeches reported—or perhaps polished if not invented—by Thucydides exemplify this effort on the part of the orator as do also the orations written by Shakespeare for his characters of which the speeches of Brutus and Antony in *Julius Caesar* are among the most notable as well as the most familiar. The point is also illustrated by the *Communist Manifesto* which is denounced as propaganda by those who mistrust the writers but to those who trust them is powerful and persuasive oratory.

Separating the use of witnesses and documents by the forensic orator from what he calls the strictly artistic means of persuasion—the means intrinsic to the art of rhetoric—Aristotle divides the latter into the three elements already noted. Persuasion he says depends on the personal character of the speaker

on putting the audience into a certain frame of mind [and] on the proof or apparent proof provided by the words of the speech itself. Persuasion is achieved by the speaker's personal character when the speech is so spoken as to make us think him credible. Secondly persuasion may come through the hearers when the speech stirs their emotions. Thirdly persuasion is effected through the speech itself when we have proved a truth or an apparent truth by means of the persuasive arguments suitable to the case in question.

These being the three technical means of effecting persuasion Aristotle concludes that rhetorical skill must consist in the ability (1) to reason logically (2) to understand human character and goodness in their various forms and (3) to understand the emotions—to know their causes and the way in which they are excited. The art of rhetoric therefore involves more than training in grammar and logic. It requires the study of ethics and psychology—particularly knowledge of the types of human character and knowledge of the passions.

The same consideration of the conditions of

oratory seems to lead Socrates to tell Phaedrus that Thrasy machus or anyone else who teaches rhetoric ought to give an exact description of the nature of the soul to explain the mode in which it acts or is acted upon. The rhetorician he goes on having classified men and speeches, and their kinds and affections and adapted them one to another will be able to tell the reasons of his arrangement and show why one soul is persuaded by a particular form of argument and another not.

THIS FACT ABOUT rhetoric—that it must adapt speech to persons as well as to subject matters—seems to occasion Socrates' definition of oratory as the art of enchanting the soul. It is not he tells Phaedrus confined to courts and public assemblies. Whether this art is a good or evil thing depends on whether it requires the speaker to know—more than the nature of the person he is addressing—the truth about the matter spoken of. To engender probabilities in the minds of the many by the likeness of the truth it is necessary says Socrates to know the truth.

He who knew the truth would always know best how to discover the resemblances of the truth. Such a man might be able not only to please and so to persuade his audience but also, perhaps he might be able to say what is acceptable to God.

The issue about rhetoric then—at least so far as that issue concerns its being an art consistent with virtue—seems to turn on the admixture of pleasure and truth. The question is whether given a particular sort of audience to persuade the orator does not have to choose between pleasing them and telling them the truth. Does the art of rhetoric extend to the persuasion of bad men as well as good? Is the skill of the orator to be measured by his success in persuading without regard to the character of the audience he has persuaded and the means he has been forced to use? Does the goodness of the orator—and of his speech—depend upon his being morally virtuous as well as rhetorically skillful?

One view of rhetoric seems to identify persuasion with pleasure and to divorce it from truth. Pascal for example in his essay *On Geometrical Demonstration* speaks of two methods the one of convincing the other of pleasing. In order

to persuade he writes one must consider the person with whom one has to deal whose spirit and heart one must know the principles he accepts, the things he loves In view of such considerations Pascal holds that the art of persuasion consists more in pleasing than in convincing to such an extent is it true that men are controlled more by whim than by reason He does not doubt that there are rules which are reliable with respect to pleasing as there are for demonstrating nor does he seem to condemn rhetoric for being such an art unless he writes with irony when he says that pleasing is incomparably more difficult more subtle more useful and more admirable

Rhetoric so conceived appears to Locke to be a powerful instrument of error and deceit and to Plato to be no art at all but a form of flattery As cookery tries to please the palate without caring what is good for the health of the body so rhetoric according to Plato aims to delight without caring what is good for the soul or the state Cookery and rhetoric are shams or simulations of the genuine arts of medicine and politics which aim at the good not at pleasure This is the sort of thing Socrates tells Callicles which I term flattery whether concerned with the body or the soul or when ever employed with a view to pleasure and without any consideration of good and evil

Socrates then asks Callicles whether he knows rhetoricians who aim at what is best and seek to improve the citizens by their speeches or whether all are bent upon giving them pleasure forgetting the public good in the thought of their own interest playing with the people as with children and trying to amuse them but never considering whether they are better or worse for this

When Callicles replies that he thinks there are some who have a real care for the public in what they say Socrates says that he is content with the admission that rhetoric is of two sorts one which is mere flattery and disgraceful declamation the other which is noble and aims at the training and improvement of the souls of the citizens and strives to say what is best whether welcome or unwelcome to the audience But he asks Callicles have you ever known such a rhetoric or if you have and

can point out any rhetorician of this stamp who is he?

SOCRATES MAY NOT be asking a rhetorical question He may be presenting the defenders of rhetoric with this critical dilemma either the orator adheres to the truth and aims at the good even if such highmindedness defeats his efforts at persuasion with an audience whom he thus displeases or the orator takes persuasion as his end and subordinates everything else to the rhetorical means for succeeding with any sort of audience

Bacon rises to the defense by rejecting the dilemma as ungentle The duty and office of rhetoric he writes is to apply reason to the imagination for the better moving of the will He admits that rhetoric is controlled by other considerations than the truth Though logic handleth reason exact and in truth and though the proofs and demonstrations of logic are toward all men indifferent and the same the proofs and persuasions of rhetoric ought to differ according to the auditors

Nevertheless Bacon thinks it was great injustice in Plato though springing out of a just hatred for the rhetoricians of his time to regard rhetoric as a voluptuary art resembling it to cookery that did mar wholesome meats and help unwholesome by a variety of sauces to please the taste For we see that speech is much more conversant in adorning that which is good than in coloring that which is evil for there is no man but speaketh more honestly than he can do or think and it was excellently noted by Thucydides in Cleon that because he used to hold on the bad side in causes of state therefore he was ever inveighing against eloquence and good speech knowing that no man can speak fair of courses sordid and base

Aristotle's defense of rhetoric seems to be implied in the remark that its function is not simply to succeed in persuading but rather to discover the means of coming as near such success as the circumstances of each case allow Just as for him the sophist differs from the dialectician not in the skills of argument or dispute but in moral purpose or respect for truth so the name rhetorician may be applied to two sorts of men The orator may signify either the speaker as knowledge of art or his moral

purpose. For want of separate names both the honest and the sophistical orator are called and can claim to be rhetoricians and it is this which confuses the issue.

IN THE TRADITION of the great books Aristotle's *Rhetoric* occupies a place comparable to that which is noted in the chapter on Poetry his *Poetics* unquestionably fills. It seems to be not merely the first but the standard treatise on oratory. It divides rhetoric into three parts—the first concerned with invention, the second with the disposition or order of a speech, the third with problems of expression. To the last of these belongs the analysis of the orator's use of language and his style in speaking; to the second, the analysis of the structure of an oration into such parts as proem, statement, argument, and epilogue; and to the first, under the head of invention, belongs the consideration of the means of persuasion.

As we have already noted, the artistic means of persuasion are according to Aristotle threefold—emotions, character, and argument. The orator must consider how to arouse and use the passions of his audience, as well as calculate how far to go in displaying his own emotions. He must consider the moral character of the audience to which he is appealing, and in this connection he must try to exhibit his own moral character in a favorable light. Finally, he must know the various types and sources of rhetorical argument—not only what sorts of argument are available for a particular purpose, but also how to employ each argument most persuasively. In this last respect, Aristotle distinguishes rhetorical proof from rhetorical induction—the use of what he calls the *enthymeme*, as opposed to the use of examples—and he relates this distinction to the difference between dialectical proof and induction which he treats in the *Topics*.

Cicero and Quintilian may extend Aristotle's analysis in certain directions, but neither they nor modern writers like Campbell and Whately depart far from the framework Aristotle sets up for the discussion of oratory. Even those who reject Aristotle's authority in logic, natural philosophy, and metaphysics pay him the tribute of following (as does Hobbes) his treatment of oratory, or of approving (as does Bacon) his

contribution to rhetoric. In the case of this science, as with few others, Bacon finds no serious deficiencies in the accepted tradition. He calls rhetoric a science excellent and excellently well labored, and places the emulation of Aristotle first among the causes why later writers in their works of rhetorics exceed themselves.

Yet by another standard Aristotle's *Rhetoric* may be judged deficient. Because he confines his attention almost exclusively to oratory, Aristotle's discussion leaves rhetoric in a larger sense almost untouched. This limitation of rhetoric to the subject matter of oratory does not go unexplained. Every other art, Aristotle writes, can instruct or persuade about its own particular subject matter: for instance, medicine about what is healthy and unhealthy, geometry about the properties of magnitudes, arithmetic about numbers, and the same is true of the other arts and sciences. But rhetoric, he says, we look upon as the power of observing the means of persuasion on almost any subject presented to us.

This last statement would seem to give rhetoric complete generality. Aristotle qualifies it, however. People fail to notice, he says, that the more correctly they handle their particular subject, the further they are getting away from pure rhetoric. So far as knowing good arguments and knowing how to use them are concerned, the physicist and the mathematician need no help from rhetoric. The art of rhetoric is necessary only in dealing with such topics as do not fall within the subject matters or systems of the established arts and sciences. Such topics are precisely those with which the orator must deal. The duty of rhetoric, Aristotle writes in summary, is to deal with such matters as we deliberate upon without arts or systems to guide us, in the hearing of persons who cannot take in at a glance a complicated argument, or follow a long chain of reasoning. This is his answer to those who have given rhetoric a far wider subject matter than strictly belongs to it.

But Aristotle's explanation of his limitation of rhetoric is itself limited to only one of its major parts, namely, the construction of arguments. As contrasted with the mathematician, the physician, and the philosopher, whose mastery of the subject matter of their arts or sci-

ences gives them a command of the relevant principles and methods of argument only the orator needs the special art of rhetoric to provide him with the topics from which examples and enthymemes can be drawn and to give him skill in the use of such arguments. But it is not only the orator who must consider the character and emotions of his audience. It is not only the orator who must consider the best way in which to order the parts of an elaborate discourse. Above all it is not only the orator who is faced with the problem of using language more or less effectively in the expression of thought and especially in its communication to others. All these considerations and problems are common to the orator and the teacher. They are considerations and problems which must be faced not merely by the public speaker who tries to move an audience to action but by anyone—poet, philosopher or scientist—who tries to write whatever he has to say as effectively as possible.

Competence in a particular art or science may give a man competence with respect to arguments in the field of his particular subject matter but it does not seem to give him competence with respect to these other considerations and problems which he faces when he tries to communicate his knowledge or thought. Here then is the possibility of a broader conception of the art of rhetoric—an art concerned not merely with being persuasive in the sphere of action but with eloquence or effectiveness in the expression of thought.

We find this view of rhetoric reflected in Chaucer's *Canterbury Tales*. In his Prologue the Franklin asks his companions to forgive his crude speech for he explains. I never learned rhetoric to tell you the truth whatever I say must be blunt and plain. I never slept on Mount Parnassus or studied Marcus Tullius Cicero. And the Squire apologizes for the inadequacy of his English to describe the beauty of Canace.

It would take an excellent rhetorician he says who knew his colorful figures of speech to describe her adequately. Though Aristotle's *Rhetoric* for the most part neglects this broader conception of rhetoric in order to expound the rules of oratory the third book of his treatise which deals with the use of language and states that problems of style are common to oratory

and poetry and to other types of discourse as well.

Kant seems to hold this broader conception of rhetoric when he says that the arts of speech are *rhetoric* and *poetry*. In the tradition of western thought the two arts tend to become identified when each is separated from any particular subject matter. As appears in the chapter on *POETRY* poetry like rhetoric has a broader and a narrower meaning. In the narrower meaning it is the art of the narrative just as in its narrower meaning rhetoric is the art of oratory. The other sense in which poetics as an art can be understood is according to Bacon with respect to words not matter. In this sense he writes it is but a character of style and becometh to arts of speech.

In this sense the poetic art is hardly distinguishable from the rhetorical art. The problems involved in composing a good speech are not the same as those involved in writing a good poem (or what Bacon calls a feigned history). But when poetics and rhetoric are each separated from such problems to become the arts of writing or speaking well about anything then in becoming as general as discourse itself they tend to become one and the same art—an art of style or expression, an art of preaching or teaching the truth about any matter on which one mind seeks to communicate with another.

IN THE TRADITION of the great books no book does for the art of rhetoric in general what Aristotle's *Rhetoric* does for that art in the limited sphere of oratory. But Augustine's treatise *On Christian Doctrine* engages in a general rhetorical analysis that is in a way comparable to Aristotle's analysis of oratory. In this work Augustine brings his own professional training as an orator to bear on the problems of reading, interpreting and expounding Sacred Scripture. The fact that he is dealing with Sacred Scripture and hence in his view with the teaching of the most fundamental truths lifts him above the limited concerns of the orator but the fact that he limits himself to Sacred Scripture also prevents him from formulating his rules of interpretation and exposition with the generality they would have to possess in order to be the rules of a general art of rhetoric.

At the opening of the fourth book of *Chris*



*tian Doctrine* Augustine declares that having considered in the preceding books the mode of ascertaining the proper meaning of Scripture he will now treat the mode of making known the meaning when it is ascertained. He disclaims any intention to lay down rules of rhetoric; he wishes merely to engage it on the side of truth. To this end he tries to show how Scripture itself and such holy men as St. Cyprian and St. Ambrose in commenting on Scripture have employed the art of rhetoric.

It is the duty, Augustine writes, of the interpreter and teacher of Holy Scripture both to teach what is right and refute what is wrong and in the performance of this task to conciliate the hostile, to rouse the careless and to tell the ignorant both what is occurring at present and what is probable in the future. But once his hearers are friendly, attentive and ready to learn, whether he has found them so or has himself made them so, the remaining objects are to be carried out in whatever way the case requires. The first rule of a general rhetoric would thus seem to be one of creating a receptive frame of mind in the persons being addressed. This accomplished, the teacher must proceed with various alternatives in mind.

If the hearers need teaching, Augustine writes, the matter treated of must be made fully known by means of narrative. On the other hand, to clear up points that are doubtful requires reasoning and the exhibition of proofs. If however the hearers require to be roused rather than instructed, in order that they may be diligent to do what they already know, greater vigor of speech is needed. Here entreaties and reproaches, exhortations and upbraidings and all the other means of rousing the emotions are necessary.

In Scripture and its great commentators Augustine finds wisdom not aiming at eloquence yet eloquence not shrinking from wisdom. He also finds examples of the three kinds of style which Cicero had distinguished—the eloquence of those who can say little things in a subdued style, moderate things in a temperate style and great things in a majestic style. These three styles Augustine connects with the three ends which Cicero had assigned to eloquence—teaching, giving pleasure and moving. The subdued style he says should be used in order to give

instruction, the temperate style in order to give pleasure and the majestic style in order to sway the mind.

The great books of history, science and philosophy provide additional materials for general rhetorical analysis. They offer us the light of examples at least even if they do not like Augustine's commentary on Scripture give us the guidance of rules. Such historians as Herodotus, Thucydides, Tacitus and Gibbon exhibit a diversity of styles in the writing of history. The diversity is not only on the grammatical level of the use of language but also on the logical level of order and argument. Rhetorical principles control the way in which the language and the organization of the parts are suited to each other and to the historian's purpose—to the effect he wishes to produce upon his reader.

The way in which Euclid writes the *Elements* is a style of exposition having rhetorical as well as logical features. In its rhetorical (if not its strictly logical) form it is applicable to other subject matters. This may be seen in Spinoza's adoption of it in his *Ethics* and in Newton's adaptation of it in his *Mathematical Principles of Natural Philosophy*. The dialogue form which Plato seems to have invented for writing philosophy appears to recommend itself rhetorically not only to other philosophers but also to a scientist like Galileo in the composition of his *Two New Sciences*. If the doctrines of the *Summa Theologica* or of the *Critique of Pure Reason* were separated from the very special styles of these two works they would probably not have the same effect upon the reader and as they are written they affect different readers differently as differently as do the styles of Dante, Milton, Melville, Dostoevsky, Adam Smith and Karl Marx.

Some methods of exposition may be more appropriate than others to certain subject matters.

There is a great difference in the delivery of mathematics, says Bacon, and of politics. But in every subject matter or field of learning there is the common problem of how to make language serve most effectively to enlighten or convince in the communication of thought. The problem arises in the writing of a single sentence as well as in the organization of a whole discourse.

THE CHOICE OF WORDS and the formation of new words the invention and employment of figures of speech by which abbreviation or amplification of discourse may be achieved and the imagination freshened—these are some of the considerations of style which Aristotle discusses (both in his *Rhetoric* and in his *Poetics*) and which Augustine illustrates in his analysis of Scripture. They suggest the rules of a general rhetoric founded on principles as universal as Pascal's insight that words differently arranged have a different meaning and meanings differently arranged have a different effect.

This observation indicates a further answer to the question raised much earlier namely why the art of rhetoric is needed over and above the skills of grammar and logic. For oratory the question has been answered by reference to those rules of rhetoric which deal with the passions and with moral character. But for a more general rhetoric concerned with all discourse the answer must be in terms of rules of style of the sort Pascal's observation suggests.

If there were never more than one grammatically and logically correct way of saying anything then grammatical and logical standards would suffice for the regulation of sound discourse. But if there are always several ways of stating something and if each of them satisfies the rules of grammar and logic but differs in the impression it makes on the mind then criteria other than those of grammar and logic will be needed to determine our choice of which to use.

Such criteria may take the passions and the imagination into account but they may also look primarily to the manner in which the mind itself naturally works. The fact that there are several ways of presenting the same truth to the mind—and usually several ways in which the mind can interpret the same statement—defines the scope of a general rhetoric and the relation of its rules to those of grammar and logic.

Nevertheless some of the great authors seem to doubt the worth of rhetoric in science or philosophy. Locke for example admits that in discourses where we seek pleasure and delight rather than information and improvement such ornaments—as figurative speeches and allu-

sion in language—can scarce pass for faults. But he adds if we would speak of things as they are we must allow that all the art of rhetoric besides order and clearness all the artificial and figurative application of words eloquence hath invented are for nothing else but to insinuate wrong ideas move the passions and so indeed are perfect cheats and where truth and knowledge are concerned cannot but be thought a great fault either of the language or person that makes use of them.

Descartes also declares that those who have the strongest power of reasoning and who most skilfully arrange their thoughts in order to render them clear and intelligible have the best power of persuasion even if they can but speak the language of Lower Brittany and have never learned rhetoric. Yet he qualifies this severity somewhat by identifying dialectic with rhetoric and granting its possible use to serve to explain at times more easily to others the truths we have already ascertained.

Plato for the most part tends in the opposite direction keeping dialectic and rhetoric poles apart. But if there were a true as opposed to a false rhetoric a rhetoric concerned with knowledge and truth not merely opinion and pleasure he would be willing it seems to admit it to the company of dialectic and regard it as an aid in the teaching if not the discovery of the truth. The pedagogical utility of rhetoric as well as dialectic appears in the summary which Socrates gives to Phaedrus after they have finished examining the speeches about love.

Until a man knows the truth of the several particulars of which he is writing or speaking Socrates says and is able to define them as they are and having defined them again to divide them until they can no longer be divided and until in like manner he is able to discern the nature of the soul and discover the different modes of discourse which are adapted to different natures and to arrange and dispose them in such a way that the simple form of speech may be addressed to the simpler nature and the complex and the composite to the more complex nature—until he has accomplished this he will be unable to handle arguments according to rules of art either for the purpose of teaching or persuading.

## OUTLINE OF TOPICS

- 1 The nature and scope of rhetoric
  - 1a The distinction of rhetoric from dialectic and sophistry the rhetorician and the philosopher
  - 1b The relation of rhetoric to grammar logic and psychology
  - 1c The relation of rhetoric to the arts of government the orator and the statesman
- 2 The function of rhetoric in expository speculative and poetic discourse
  - 2a The devices of rhetoric figures of speech the extension and contraction of discourse
  - 2b The canon of excellence in style
  - 2c Methods of exposition in history science philosophy and theology
  - 2d Principles of interpretation the modes of meaning
- 3 The role of rhetoric as concerned with persuasion in the sphere of action the analysis of oratory
  - 3a The kinds of oratory deliberative forensic epideictic
  - 3b The structure of an oration the order of its parts
  - 3c The use of language for persuasion oratorical style
- 4 The means of persuasion the distinction between artistic and inartistic means
  - 4a The orator's consideration of character and of the types of audience the significance of his own character
  - 4b The orator's treatment of emotion his display of emotion the arousal of his audience
  - 4c Rhetorical argument the distinction between persuasion and demonstration
    - (1) Rhetorical induction the use of examples
    - (2) Rhetorical proof the use of enthymemes
    - (3) The topics or commonplaces which are the source of premises the orator's knowledge of various subject matters
- 5 The evaluation of oratory and the orator the justification of rhetorical means by the end of success in persuasion
  - 5a The purpose of oratory and the exigencies of truth
  - 5b The orator's concern with justice law and the good the moral virtue of the orator
- 6 The education of the orator the schools of rhetoric
- 7 The history of oratory its importance under various social conditions and in different forms of government
- 8 Examples of excellence in oratory

## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Iliad* BK II [265 283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 1.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART or CHAPTER or SECT.) are sometimes included in the reference line numbers in brackets are given in certain cases. e.g. *Iliad* BK II [265 283] 12d.

**BIBLIOGRAPHICAL REFERENCES.** The references are to book chapter and verse. When the King James and Douay versions differ a title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follow. e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) *II Esdras* 7 46.

**SYMBOLS.** The abbreviation esp. calls the reader's attention to one or more especially relevant points for a whole reference passage signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For detailed information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

## 1 The nature and scope of rhetoric

7 PLATO *Phaedrus* 115a 141a c esp 136a 141a c / *Meno* 176d 177a / *Gorgias* 252a 294d esp 260a 262 280d 283a

9 ARISTOTLE *Rhetoric* 1359a 675a c esp BK I H 1 3 593a 599 CH 4 [1359<sup>b</sup> 18] 599d BK I I CH 1 [1404 1] 654a

10 GALEN *Natural Faculty* BK I CH 16 180d 181a

12 EPICURUS *Discourses* BK I H 8 113d 114c BK I CH 23 170a 172d

14 PLUTARCH *Persians* 129b 130a

17 PLUTARCH *Fortitude* H 129b CH 3 175a / *Fifth Epistle* CH II 250d

18 AUGUSTINE *Christian Doctrine* BK II CH 36-37 653d 654b K IV H 1 5 675b d 677d

19 AQUINAS *Summa Theologiae* PART II Q 27 A 2 R 2 737d 738

21 HORACE *Letters* V 72a d

23 MONTAIGNE *Essays* 147b d

30 BACON *Advancement of Learning* 56b 62c 69 esp 66b 67

33 PASCAL *Metaphysical Theology* 439b-446a

35 LOCK *Human Understanding* BK III CH 1 5 1 34 299d 300a

42 KANT *Judgements* 532b d 535b-c

## 1a The distinction of rhetoric from dialectic and sophistry the rhetorician and the philosopher

6 THUCYDIDES *Peloponnesian War* BK 425c d

7 PLATO *Protagoras* 39d 42c 47d-48 50d 52d 57a d / *Euthydemus* 65a 64a esp 83a b / *Phaedrus* 131b 141a c / *Apology* 200a 201b 203a 205 / *Gorgias* 252d 294d esp 253b 256c 258b 259 265a 267c 280d 285a / *Theaetetus* 525d 526a 528 530b / *Sophist* 555d 556b 559 561a 579 d / *Philebus* 634b 635a

8 ARISTOTLE *Topics* K I CH 3 144a b

9 ARISTOTLE *Rhetoric* K I CH 1 2 593 598b CH 4 [1359<sup>b</sup> 17] 599d

12 AURILIUS *Medicinal* BK I SECT 7 253b d

14 PLUTARCH *Themistocles* 88d

18 AUGUSTINE *Confessions* BK II PR 7-8 14c 15 K V PR 29b d / *Christian Doctrine* K II CH 36-37 653d 654b K V H 5

677a d CH 12 683d 684c H 7 28 696a 697a

19 AQUINAS *Summa Theologiae* PART II Q 83 A 1 AN 436d-438a

24 RALPH *Gargantua and Pantagruel* K II 101b 106

25 MONTAIGNE *Essays* 445d 450a 453-455a

30 BACON *Advancement of Learning* 66c 67c

(1 *The nature and scope of rhetoric* 1a *The distinction of rhetoric from dialectic and sophistry the rhetorician and the philosopher*)

- 31 DESCARTES *Rules* x 16d 17a  
 33 PASCAL *Geometrical Demonstration* 439b 446a  
 35 LOCKE *Human Understanding* BK III CH X SECT 34 299d 300a  
 43 MILL *Liberty* 292b 293b  
 47 GOETHE *Faust* PART I [1995 2000] 47a b

1b *The relation of rhetoric to grammar logic and psychology*

- 7 PLATO *Phaedrus* 131b 141a c / *Gorgias* 281c 282c  
 ■ ARISTOTLE *Interpretation* CH I [16 5-8] 25a CH 4 [17<sup>1</sup> 7] 26b  
 9 ARISTOTLE *Rhetoric* BK I CH I 2 593a 598b CH 4 [1359<sup>9</sup>-17] 599d BK III CH I 12 653b d 667b  
 10 GALEN *Natural Faculties* BK I CH 16 180d 181a  
 18 AUGUSTINE *Christian Doctrine* BK II CH 36-37 653d 654b  
 23 HO BES *Leviathan* PART I 55a b 67c 72a d  
 25 MONTAIGNE *Essays* 75a 77d 448d-449c  
 30 BOSWELL *Advancement of Learning* 31a d 56b 67 passim esp 58c 59a  
 31 DIDEROT *Dictionnaire* PART I 43b  
 33 PASCAL *Pensées* 14 16 174a b  
 35 LOCKE *Human Understanding* BK III CH X SECT 34 299d 300a  
 42 KANT *Judgement* 575b-c

1c *The relation of rhetoric to the arts of government the orator and the statesman*

- 4 HO BES *Iliad* BK II [278 393] 12d 13d  
 5 EURIPIDES *Suppliants* [399-425] 261d 262a / *Orestes* [852-956] 402d-403d  
 5 ARISTOPHANES *Peace* [601-656] 532d 533c  
 6 HERODOTUS *History* BK V 180c d  
 6 THUCYDIDES *Peloponnesian War* BK III 425c d 417a-c  
 7 PLATO *Phaedrus* 129d 130c / *Apology* 200a 212 c / *Gorgias* 252a 294d esp 254d 256d / *Statesman* 604c 605c / *Laws* BK IV 684 686b  
 9 ARISTOTLE *Ethics* BK X CH 9 [1180<sup>28</sup> 1181 18] 435d-436a / *Politics* BK IV CH 4 [292 4 35] 491b d passim BK V CH 5 [1305 7 15] 506d / *Rhetoric* c 593a 675a c esp BK I CH I [1354<sup>23</sup> 34] 593d 594a CH 3-8 598b-608c BK II CH I [1377<sup>14</sup> 1378 19] 622b d 623a  
 11 AURELIUS *Mediocris* BK VIII SECT 30 287d  
 13 VIRGIL *Aeneid* BK I [142 156] 107a  
 18 PULLICH *Perriles* 129b 130b / *Alphabet* 159 b / *Phonon* 604b d-605c / *Cat the* 1 u ger 621c / *Demithene* 691b d 704a c / *Cicero* 704a 723d esp 709a / *Demithenes* *Cicero* 724a 725d

- 15 TACITUS *Annals* BK I 10d 11b 12c 13d BK VIII 126a b / *Historiae* BK IV 290a d  
 18 AUGUSTINE *Christian Doctrine* BK IV CH 5 677a d CH 18 19 686d 688a CH 24 694b-c  
 19 AQUINAS *Summa Theologiae* PART I II Q 7 A 2 REF 3 652d 653c  
 23 MACHIAVELLI *Prince* CH XVIII 33d 34b  
 23 HO BES *Leviathan* PART II 106a b 127d 128d 129b-c 158d 159a  
 25 MONTAIGNE *Essays* 147b 148a  
 26 SHAKESPEARE *Julius Caesar* ACT III SC II 583c 586c  
 27 SHAKESPEARE *Coriolanus* ACT III SC II [39 86] 374a b  
 30 BACON *Advancement of Learning* 1d 2b 25a c 78a d  
 32 MILTON *Areopagitica* 383a  
 36 STERNE *Tristram Shandy* 290a b  
 38 MONTESQUIEU *Spirit of Laws* BK XXII 266b b  
 38 ROUSSEAU *Political Economy* 369d  
 40 GIBSON *Decline and Fall* 64a c 303c 384d 385b  
 43 FEDERALIST NUMBER I 29d 30c NUMBER 53 181b c  
 43 MILL *Representative Government* 361b 362c  
 44 BOSWELL *Johnson* 374a c  
 46 HEGEL *Philosophy of History* INTRO 133d 154a PART II 273d 274a

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- 7 PLATO *Phaedrus* 129d 141a c  
 9 ARISTOTLE *Rhetoric* BK I CH 2 [1355<sup>26-35</sup> 595b [1356<sup>36</sup>-1357<sup>7</sup>] 596c [1358 3 26] 597d 598b CH 4 [1359<sup>1</sup> 18] 599d BK III CH I 12 653b d 667b / *Poetics* CH 6 [1449<sup>20</sup>-1450<sup>23</sup>] 684a 685a esp [145<sup>4</sup> 13] 684d 685a CH 19 691d 692b  
 18 AUGUSTINE *Christian Doctrine* BK II CH 6 638a d CH 36-37 653d 654b BK IV 675 698a b  
 22 CHAUCER *Clerks Prologue* 295a 296a  
 30 BACON *Advancement of Learning* 11b 12c esp 12b c 38c 39a 62c 69c esp 65b / *Novum Organum* BK I APH 65 114b c  
 33 PASCAL *Pensées* 1 22 23 175b 50-59 178b 179b  
 35 LOCKE *Human Understanding* BK III CH X SECT 34 299d 300a  
 42 KANT *Pure Reason* 3c-4a c / *Practical Reason* 294b c / *Pref. Metaphysical Elements of Ethics* 376c d / *Judgement* 524a b 532b-d 575b-c  
 44 BOSWELL *Johnson* 130c 131a 180b

2a *The devices of rhetoric figures of speech the extension and contraction of discourse*

- 8 ARISTOTLE *Topics* BK VIII CH I [157<sup>1</sup> 18] 213a b  
 9 ARISTOTLE *Rhetoric* BK III CH I 12 653b d 667b / *Poetics* CH 21 [1457 1 1458<sup>7</sup>] 693a d CH 2 694a 695

- 1 PLUTARCH *Lycurgus* 42c 43b / *Phocion* 606c-d / *Marcus Brutus* 803b-c
- 8 AUGUSTINE *City of God* BK XI CH 18 331d 332a / *Christ an Doctrine* BK III CH 29 668a d CH 37 674b d BK IV CH 7 678c-682a
- 2 CHAUCER *Troilus and Cressida* BK II STANZA 37 26b STANZA 147-149 40b-41a / *Prologue* [725 746] 171b 172a / *Clerk's Prologue* 295a 296a / *Squire's Tale* [10 348 355] 339b [10 715-722] 345b / *Franklin's Prologue* 351a / *Sir Thopas* 396a-400a / *Prologue to M I beus* 400b-401a / *Manciple's Tale* [17 154 186] 491a b / *Paros's Prologue* [17 341 375] 494a b
- 13 HOBBS *Leviathan* PART I 67b PART II 127d CONCLUSION 282c d
- 14 RAB LAIS *G gantua a d Pantagruel* BK II 77b 78b 101b 106a BK III 195c
- 15 M NTAIGNE *Essays* 15c d 113d 114b 148a 149a 196b-197 198b-c 465c d
- 18 SH KE S R *Int Henry IV ACT I* SC III [209-21] 439d / *Henry V ACT IV* SC VII [35] 559a
- 27 SHAKESPEARE *Troilus and Cressida* ACT III SC II [180-189] 122 / *S nnets* LXXXII 598d
- 28 G LABRY *Loadstone* PREF 2b c
- 29 CER ANT S *Don Quixote* PART I XIIA XVII PASSIM 1b c PART II 251a 252a
- 30 BACON *Adv cement of Learning* 11b 12c 24a 39b-d 58a b 99b c
- 33 PASCAL *Pensees* 26-29 175b 176a
- 11 LOCK *Human Understand ng* K III CH X SECT 34 299d 300
- 36 STERNE *Tristram Shandy* 228b 229b 243a 244a
- 37 FIELDING *Tom Jones* 49a 50c
- 43 FEDERALIST NUM ER 24 87b III NUMBER 29 100a b
- 44 BOSW LL Joh son 284b 353c 354a
- 49 DARWIN *Orig n of Species* 40 d
- 51 TOL TOR *War and Peace* BK X 534c d
- 53 JAM S *Psychol gy* 687a-688a 692b 693b passim
- 54 FREUD *Beyond the Pleasure Principle* 662a b
- b The canon of excellence in style
- 5 ARISTOTANE *Knights* [ 373 1383] 486d 487a / *Cloud* [ 3 4 340] 491c-492a [518-562] 494d 495 [135 1379] 504d 505b / *Peace* [734-815] 534c 535 / *B rds* [ 372 1409] 559b c / *F ogs* [777-1533] 573b 582a b / *Thems phormaxus* c [95 75] 601 602b
- 7 PLATO *Ph rgor* s 52d 57a / *Republic* BK III 328b 331c
- 9 ARISTOTLE *Ethi s* BK IV CH 8 [II 8 18-25] 375b-c / *Pol t* s BK I CH 6 [1265 10-] 1460b BK VII CH 7 [1342 32 18] 548a / *Rhet ric* BK III CH 1- 653b d 667b / *P etics* CH 19 [14568-19] 692 b CH 22 694a 695a H 24 [1460 32 4] 696c-d CH 5 [146612 4] 696d
- 12 AUL IUS *Medu to* BK VIII S T 30 287d
- 14 P UTARCH *L y u g* 42 -43b / *M cus Cato* 279d / *Phoci n* 606 d
- 18 AUGUSTINE *Confessions* BK III par 9 15a b BK VI par 35 37 97c 98b / *City of God* BK XI CH 18 331d 332a / *Christian Doctrine* BK II CH 36 653d BK IV CH 14 684d 685b CH 17 26 686c 696a
- 22 CHAUCER *Troilus and Cressida* BK II ST NZA 147-149 40b-41a / *Prologue* [725-746] 171b 172a / *Miller's Prologue* [3167-3186] 212a b / *Clerk's Prologue* [7888-7932] 295a 296a / *Squire's Tale* [10 715-722] 345b / *Franklin's Prologue* 351a / *Sir Thopas* 396a-400a / *Prologue to M I beus* 400b-401a / *Manciple's Tale* [17 154 186] 491a b
- 23 HOBBS *Leviathan* PART I 67b
- 25 MONTAIGN *Essays* 75a 77d 104d 105c 113d 114b 145d 146b 148a 149a 194c 200d passim 309c 310c 422c-423c 449b-c 453d 454a 455a d 465 d 482b 483b 502c 504b 511c d
- 27 SHAKESPEARE *Sonnets* XXI 589b c LXXVI 597d 598a LXXXII 598d CXXX 606a b
- 29 CERVANT S *Don Quixote* PART I XIIIa-c 1b c 185a b PART II 251a 252a
- 30 BACON *Adv cement of Learn g* 11b 12c 63b 64a 66b
- 31 DESCARTES *D scourse* PART I 43b PART VI 66d
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- 33 PASCAL *Pensees* 14-16 174a b 22-35 175a 177a 48 178b
- 36 STERNE *Tristram Shandy* 209a 210b 230b 231a 287b 289b 344b 345a
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- 40 GIBSON *Decline and F ll* 494d-495 529d
- 41 GIBSON *De li e and Fall* 300b 327c 522c 523c passim 573a
- 42 HANT *Judgement* 513d 514b 524a b
- 44 BOSW LL *Johns n* 59c 61d 167d 168b 215b c 217 b 284b 353c 354a 381d 382a 454a 455b
- 53 JAMES *Psychology* 381a
- 2c Methods of exposition in history science philosophy and theology
- 6 THUCYDID S *Pelopo ian W r* BK I 354b c
- 7 PLATO *Protag r* 50d 52d 54 55a 57 c / *Pha dru* 132b-140b / *Thea tetus* 542a / *Statesman* 590d 591 / *Seventh Letter* 809a b
- 8 AR STOTIL *Posteri Analytics* K VI CH 13 [9738 30] 133c / *T pics* K VIII CH 3 [ 588-17] 215b
- 9 ARI TOYLE *Parts of Anim l* BK I CH 161a 165d p ssim esp [639 1 b ] 161a d / *Rhet ric* BK I CH 2 [ 358 3-26] 597d 598b CH 4 [ 359b 1-18] 599d BK CH I [ 4 4 ] 654a
- 12 LUCRETIVS *N tur f Th ngs* BK I [9 -95] 12b
- 11 EPI T TU *Dis cour* K II CH 23 170a 172d BK II = 3 203a b
- 11 PLU ARCH *Phocion* 606c d

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- 18 AUGUSTINE *Christian Doctrine* BK II CH 16 644a 645d BK III CH 5 659d 660a CH 10-13 661c 663c BK IV 675a 698a c passim esp CH 8 11 682 683d CH 14 684d 685b c 122 26 693c 696a
- 19 AQUINAS *Summa Theologica* PROLOGUE I E P RT 1 Q1 A 9 8d 9c
- 23 HOBBS *Leviathan* PART I 57d 58a 67c PART III 169b-c CONCLUSION 282c d
- 25 MONTAIGNE *Essays* 197b 198a 198c 200d 423c 448b 449d 455d 456a 482b d
- 28 GILBERT *Loadstone* PREF 2b-c
- 28 H R EY *On Animal Generation* 336d 337a c
- 30 BACON *Advancement of Learning* 12a c 64b c 65a c
- 33 PASCAL *Pensées* 797-800 327b 328a
- 35 LOCKE *Human Understanding* 87d 88a BK III C14 SECT 34 299d 300a
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- 37 FIELDING *Tom Jones* 19a 20a 49b-50c
- 38 MONTESQUIEU *Spirit of Laws* BK XIV 266b c
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- 40 GIBSON *Decline and Fall* 213b d passim 471c d
- 41 GIBSON *Decline and Fall* 40c d 186 b 326c d
- 42 HANT *Pu e Reason* 2d-4a c / *Practical Reason* 294b-c / *Pref Metaphysical Elements of Ethics* 376c d / *Judgement* 514a 515b c
- 44 BOSWELL *Johnson* 217a b
- 45 LAVOISIER *Elements of Chemistry* PREF 2b d
- 45 FARADAY *Reserches in Electricity* 758a 777d 778c 851b
- 49 DARWIN *Origin of Species* 40c d
- 53 JARVIS *Psychology* 121b 122b 146b 153b 154a 235b
- 54 FARADAY *Beyond the Pleasure Principle* 662a b
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- 7 PLATO *Protagoras* 52d 57a
- 9 ARISTOTLE *Poetics* CH 3 696d 698c
- 12 PROCTERUS *Discourses* BK I C1 17 122d 123a
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- 19 AQUINAS *Summa Theologica* PART I Q 1 AA 9-10 8d 10c
- 21 DANTE *The Comedy* REEL IV [61-63] 13a PURGATORY VIII [19-21] 64c
- 23 HOBBS *Leviathan* PART III 246c
- 24 RABELAIS *Gargantua and Pantagruel* 1 1b d 3a c
- 30 BACON *Advancement of Learning* 4c 39b d 63a 99b c
- 33 PASCAL *Provincial Letters* 163b-164b / *Pensées* 570-579 273b 276a 642-692 290b 301a
- 40 GIBSON *Decline and Fall* 346a b
- 41 GIBSON *Decline and Fall* 329d 330a
- 42 HANT *Practical Reason* 294b c 339b-d
- 43 MILL *Liberty* 290a b
- 48 MELVILLE *Moby Dick* 151b 152a
- 54 FREUD *Interpretation of Dreams* 248c / *New Introductory Lectures* 816a b
- 3 The role of rhetoric as concerned with persuasion in the sphere of action on the analysis of oratory
- 7 PLATO *Phaedrus* 131b 138c / *Gorgias* 252a 294d
- 9 ARISTOTLE *Politics* BK IV CH 4 [1392 4 35] 491b d BK V C1 4 [1347 18] 506b / *Athensian Constitution* CH 28 PAR 3 4 385d 566a / *Rhetoric* 593a 675a esp BK I CH 1 [1354 1]-CH 2 [1356 35] 593a 596a CH 3 598b 599 BK II CH 1 [1377 21] 1378 19] 622b d 623 CH 18 [1391 8 20] 639a b CH 26 [1403 33 35] 653c BK III CH 1 [1403 5 13] 653b CH 16 [1416 15 22] 670c d
- 12 PROCTERUS *Discourses* BK I CH 8 113d 114c
- 14 PLUTARCH *Persicles* 129b 130b
- 18 AUGUSTINE *Christian Doctrine* BK IV CH II 14 683c-685b CH 23 26 693d-696a
- 23 HOBBS *Leviathan* PART I 73b
- 25 MONTAIGNE *Essays* 147b 148a
- 32 MILTON *Paradise Lost* BK IX [664-678] 261b-262a
- 33 PASCAL *Geometrical Demonstrations* 439b-446a esp 441a b
- 35 BERKELEY *Human Knowledge* INTRO SECT 20 410d-411a
- 42 HANT *Judgement* 535b-c
- 43 DECLARATION OF INDEPENDENCE [1-6] 1a [95 1] 3a
- 43 FREUD *LIST NUM R I* 29d 30c NUMBER 58 181b c
- 43 MILL *Representative Government* 361b-362c
- 44 BOWELL *John* ON 374a-c
- 46 HAZEL *Philosophy of History* INTRO 153d 154a T I 250d 251a
- 50 MARX *Elements of Communism* Manifesto 429c 433d passim

- 51 Tolstoy *War and Peace* BK X 426a-430b  
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- 52 Dosto vsky *Brothers Karamazov* BK XII  
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- 54 Freud *General Introduction* 450b / *Group  
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- 7 Plato *Phaedrus* 137b
- 9 Aristotle *Rhetoric* BK I CH I [1354<sup>b</sup>22-  
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- 12 Epictetus *Discourses* BK III CH 23 201a  
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- 18 Augustine *Christian Doctrine* BK IV CH 18  
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- 23 Hobbes *Leviathan* PART I 67c PART II  
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- 35 Bacon *Advancement of Learning* 38b c
- 40 Gibbon *Decline and Fall* 343a b
- 1b The structure of an oration the order of  
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- 7 Plato *Phaedrus* 132c 13 b
- 9 Aristotle *Rhetoric* BK I CH 26 [403 33-  
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13 19 667b-675a c
- 23 Montaigne *Essays* 465a
- 30 Bacon *Advancement of Learning* 58c 59a  
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- 3c The use of language for persuasion ora  
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- 7 Plato *Protagoras* 50d 52d 57a c / *Symposium*  
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- 9 Aristotle *Rhetoric* BK I CH 12 653b d  
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- 12 Lucrétius *Nature of Things* BK I [921-950]  
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- 12 Epicurus *Discourses* BK I CH 8 113d 114c  
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- 14 Plutarch *Lycurgus* 42c-43b / *Alcibiades*  
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- 18 Augustine *Confessions* K V par o-ii  
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- 23 Hobbes *Leviathan* PART II 127d CONCLU  
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- 26 Shakespeare *King John* ACT II SC I [4 3-  
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- 30 Bacon *Advancement of Learning* 12a c  
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- 31 Descartes *Discourses* BK 43b
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- 51 Tolstoy *War and Peace* BK II 65d 66d BK  
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- 52 Dosto vsky *Brothers Karamazov* BK XII  
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- 9 Aristotle *Rhetoric* BK I CH 2 [1355<sup>b</sup>36-  
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- 18 Augustine *Christian Doctrine* BK IV CH 4  
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- 47 Goethe *Faust* PART I [522-557] 15a b
- 4a The orator's consideration of character  
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cance of his own character
- 4 Homer *Iliad* BK III [2 3 24] 21a b
- 6 Hecataeus *History* BK VIII 271c d
- 6 Thucydides *Peloponnesian War* BK I 358d  
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- 7 Plato *Phaedrus* 136a 137 / *Critias* 478b d
- 9 Aristotle *Rhetoric* BK I CH 2 [1356 1 25]  
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- 13 Varro *Aeneid* K [142-156] 107a
- 14 Plutarch *Pericles* 129b 130b
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- 18 Augustine *Christian Doctrine* BK IV CH 6  
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- 27 Shakespeare *Cicero* ACT II SC I [4 1 5-  
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- 32 Milton *Areopagitica* 381b 383b
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22 GILBERT *Loadstone* PREF 2b c

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24 BACON *Advancement of Learning* 12a-c 64b c 65a c

25 PASCAL *Pensées* 797-800 327b-328a

26 LOCK *Human Understanding* g 87d 88a BK III CIV SECT 34 299d 300a

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31 GIBSON *Decline and Fall* 213b d *passim* 471c d

32 GIBSON *Decline and Fall* 40c d 186a b 526c d

33 HUNT *Pure Reason* 2d-4a c / *Part of Reason* 294b c / *Pref Metaphysical Elements of Ethics* 376c d / *Judgement* 514a 575b c

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37 DWIN *On the Spec* 40 d

38 JAMES *Psychology* 121b 122b 146b 153b-154a 235b

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*Doctrine* BK I CH 624a 674d esp BK I CH 35 37 634c 635c BK II CH 6 638a d CH 9-10 640c 641a CH 12 641c 642b III 16 644a 645d BK III CH 5 659d 660a CH 10-13 661c 663c CH 24-37 666d 674d

19 AQUINAS *Summa Theologiae* PART I Q 1 AA 9-10 8d 10c

21 DANTE *Divine Comedy* HELL IX [61-63] 13a PURGATORY VIII [19- 1] 64c

23 HOBBS *Leviathan* PART III 46c

24 RABELAIS *Gargantua and Pantagruel* BK I 1b d 3a c

30 BACON *Advancement of Learning* 4c 39b d 63a b 99b c

33 PASCAL *Provincial Letters* 163b 164b / *Pensées* 570-5, 9 273b 276a 642-692 290b 301a

40 GIBSON *Decline and Fall* 346a b

41 GIBSON *Decline and Fall* 329d 330a

42 KANT *Practical Reason* 294b c 339b-d

43 MILL *Liberty* 290a b

48 MELVILLE *Moby Dick* 151b 152a

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- The role of rhetoric in the sphere of philosophy and its relation to or distinction from dialectic and sophistry see DIALECTIC 5 PHILOSOPHY 6b TRUTH 4d
- The function of oratory in the sphere of politics see DEMOCRACY 7a EMOTION 5d STATE 8d(2)
- Discussions relevant to the broad conception of rhetoric as the art of achieving eloquence and effectiveness in any sort of discourse and as concerned with problems of style and principles of interpretation see LANGUAGE 3a 6 12 POETRY 8b-8c SIGN AND SYMBOL 4c-4d
- Discussions relevant to the narrow conception of rhetoric as the art of oratory and as concerned with the means of persuasion in the sphere of action see EMOTION 5d HONOR 3a-3b INDUCTION 4b REASONING 5d TRUTH 4d

## ADDITIONAL READINGS

Listed below are works not included in *Gre t Book of th Western Wo ld* but relevant to the idea and topics with which this chapter deals. The two works added into two groups

I Works by the author represented in this collection

II Works by authors not represented in this collection

For the date place and other facts concerning the publication of the works cited in the Bibliography of Addition I Readings which follow the last chapter of *The Great Ideas* as

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E I  
— *The H rm y of th G p ls*  
HOBBS *Th Wh l A t f Rh to*

### II

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— *P et cu*  
— *Ant d*  
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## Chapter 82 SAME AND OTHER

### INTRODUCTION

THE problems of identity and diversity—of sameness and otherness—similarity and difference—occur at that level of philosophical thought which deals with being and with unity. Plotinus for example says that in addition to Being Motion and Rest we are obliged to posit the further two Identity and Difference so that we have in all five genera

In Aristotle's conception terms like being one and same have a greater universality than the terms he calls the highest genera e.g. substance quantity quality relation and so forth. These latter represent categories or classes under which certain things fall and others do not. Not everything is a substance or a quantity but in Aristotle's opinion there is nothing of which it cannot be said that it is a being in some sense that it has some kind of unity that it is identical with itself and that compared with anything else in the whole universe it is in certain respects the same in others different.

The fundamental relation of quantities with one another namely equality consists in their being the same. The fundamental relation of qualities consists in their being alike or the same in spite of some difference in degree or intensity e.g. a brighter and a darker red of the same hue. The notion of relation itself seems to be as fundamental as that of sameness since in comparisons one thing is said to be the same or different only in relation to something else yet it also seems to be true that relations can be the same or similar for the essence of proportion or analogy lies in one thing's being related to a second as a third is to a fourth. The sameness of two relationships is the object of the comparison.

Such considerations are sometimes called metaphysical with an inviolous tone. But no one—not even those who would eliminat

physical discussion as indulging in vicious abstractions or as verging on the meaningless—can easily avoid such notions as identity and diversity. It is not merely that ordinary speech as well as scientific discourse must use such words as same and other almost as frequently as the words is and not or one and many. Those who are critical of theorizing and who want to save discourse itself from becoming too metaphysical are still obliged to give some account of what it means for things to be the same or different and of how we know when they are.

Semantics currently has vogue as a critical instrument for safeguarding discourse from ambiguity and nonsense and perhaps also for spotting metaphysical legerdemain. But semantics itself cannot go far in its own analysis of words and meanings without having to explain how the same word can have different meanings or how the same meaning can be expressed by different words. It does not seem likely that an adequate explanation could be developed without some theory of sameness and otherness.

THE SENSE OF SAMENESS says William James is the very keel and backbone of our thinking. He is here speaking of the sense of sameness from the point of view of the mind's nature alone and not from the point of view of the universe. Whether there be in real sameness in things or not or whether it could be true or false in its assumptions of a nature on the point remains that it makes continual use of the notion of sameness and is deprived of it would have a different structure from what it has. Without the psychological sense of identity sameness is a dead weight upon us from the outer world. It is not none the wiser for the sake of the sense on the other hand.

be an unbroken flux and yet we should perceive a repeated experience

James distinguishes three principles of identity. In addition to the *psychological* law according to which we feel a later experience to be the same as an earlier one, he refers to the *ontological* principle which asserts that every real thing is what it is, that *a* is *a* and *b* is *b*, and the *logical* principle which declares that what is once true of the subject of a judgment is always true of that subject. James seems to think that the ontological law is a tautological truism, whereas the logical and the psychological principles have further implications not immediately obvious. Locke appears to take a contrary view. He finds the identity of all *ideas* self-evident, while to him the real identity of *things* is much more difficult to grasp.

The principle of identity and its companion principle of contradiction are according to Locke expressed in the propositions: *Whatever is is* and *It is impossible for the same thing to be and not to be* — these two general propositions amounting to no more, in short, but this: that the same is the same, and the same is not different. But Locke adds: the mind, without the help of any proof or reflection, on either of these general propositions, perceives so clearly and knows so certainly that the idea of white is the idea of white, and not the idea of blue, and that the idea of white when it is in the mind is there and is not absent, that the consideration of these axioms can add nothing to the evidence or certainty of its knowledge. I appeal to every one's own mind whether this proposition: *A circle is a circle*, be not as self-evident a proposition as that consisting of more general terms: *Whatsoever is is*.

But unlike the comparing of an idea with itself, real identity according to Locke requires us to consider a thing as existing at any determined time and place, and to compare it with itself existing at another time.

When, therefore, we demand whether anything be the same or no, it refers always to something that existed at such a time in such a place, which was certain at that instant was the same with itself and no other, from whence it follows that one thing cannot have two beginnings of existence, nor two beginnings

it being impossible for two things of the same kind to be or exist in the same instant in the very same place, or one and the same thing in different places. That therefore that had one beginning is the same thing, and that which had a different beginning in time and place from that is not the same, but diverse. In short, across a lapse of time a thing remains identical, in Locke's view, or maintains its identity of existence, having made it one particular thing under any denomination, the same existence continued preserves it the same individual under the same denomination.

THIS UNDERSTANDING OF real identity Locke applies without difficulty to an atom of matter, which being at a given instant, what it is and nothing else, is the same and so must continue as long as its existence is continued, for so long it will be the same and no other. In like manner, if two or more atoms be joined together into the same mass, every one of those atoms will be the same by the foregoing rule, and whilst they exist united together, the mass consisting of the same atoms, must be the same mass or the same body, let the parts be ever so differently jumbled. But Locke continues: if one of these atoms be taken away, or one new one added, it is no longer the same mass or the same body.

The problem of identity in living organisms Locke does not find so easy to solve. In the state of living creatures, he says, their identity depends not on a mass of the same particles, but on something else. For in them the variation of great parcels of matter alters not the identity: an oak growing from a plant to a great tree, and then lopped, is still the same oak, and a colt grown up to a horse, sometimes fat, sometimes lean, is all the while the same horse, though in both these cases there may be a manifest change of the parts, so that truly they are not either of them the same masses of matter.

The problem of the real identity or continuity of living things through time and change, as we shall see presently, only a special case of the larger problem of whether anything, at all, remains identical for more than an instant in the universal flux of things. But supposing that problem solved in favor of con-

during substances or things which somehow remain continuously the same while changing in this or that respect the point of Locke's observation about living things still holds for their identity does not seem to lie in the continuity or permanence of the matter—the particles—of which they are composed

The familiar riddle about the pipe—whether it is in any respect the same after it has its broken bowl replaced by a new one and then has a new stem added to the new bowl—may be propounded for living organisms. But in their case Locke argues a principle of identity can be found. A plant he says "continues to be the same plant as long as it partakes of the same life though that life be communicated to new particles of matter vitally united to the living plant in a like continued organization conformable to that sort of plant"

The principle he thinks applies to animals and men. The case is not so much different in brutes but that anyone may hence see what makes an animal and continues it the same. Something we have like this in machines and may serve to illustrate it. For example what is a watch? It is plain it is nothing but a fit organization or construction of parts to a certain end which when a sufficient force is added to it is capable to attain. If we could suppose this machine one continued body all whose organized parts were repaired increased or diminished by a constant addition or separation of insensible parts with one common life we should have something very much like the body of an animal. This also shows wherein the identity of the same man consists viz in nothing but a participation of the same continued life by constantly fleeing particles of matter in succession vitally united to the same organized body

IN THE CASE OF MAN however Locke thinks we must face the additional problem of personal identity. What makes a man the same person from moment to moment sleeping and waking remembering or not remembering his past? In what does the continuity of the self consist on the identity of which Locke insists? He founded all the right and justice of reward and punishment? His answer seems to be that as a living organism is identical throughout one

and the same life it is the continuity of the same consciousness which makes a man be himself to himself and establishes his personal identity

Whatever has the consciousness of present and past actions, Locke writes, is the same person to whom they both belong. That with which the consciousness of this present thinking thing can join itself makes the same person and is one self with it and with nothing else. If the same Socrates waking and sleeping do not partake of the same consciousness Socrates waking and sleeping is not the same person. And to punish Socrates waking for what sleeping Socrates thought and waking Socrates was never conscious of would be no more right than to punish one twin for what his brother twin did whereof he knew nothing because their outsides were so like that they could not be distinguished.

William James also attributes the sense of personal identity to continuity of consciousness but for him there still remains a problem of explaining that continuity. In the flow of consciousness from moment to moment continuity, he thinks, makes us unite what dissimilarity might otherwise separate. Similarity makes us unite what discontinuity might hold apart. The sense of our personal identity then is exactly like any one of our other perceptions of sameness among phenomena. It is a conclusion grounded either on the resemblance in a fundamental respect or on the continuity before the mind of the phenomena compared.

In his opinion, *resemblance among the parts of a continuum* of feelings (especially bodily feelings) experienced along with things widely different in all other regards thus constitutes the real and verifiable personal identity which we feel. There is no other identity than this in the stream of subjective consciousness. Its parts differ but under all their differences they are knit in these two ways and if either way of knitting disappears the sense of unity departs. If a man wakes up some fine day unable to recall any of his past experience so that he has to learn his biography afresh, he feels and he says that he is a changed person. He discards his former me gives himself a new name denotes his present life with nothing from out of



the older time. Such cases are not rare in mental pathology.

In the tradition of the great books other solutions are offered to the problem of personal identity. Kant thinks for example that a transcendental unity of apperception is necessary to constitute in all possible phenomena which may come together in our experience a connection of all these representations according to laws. Unity of consciousness, he writes, would be impossible if the mind in the knowledge of the manifold could not become conscious of the identity of function by which it unites the manifold synthetically in one knowledge. Therefore the original and necessary consciousness of the identity of one's self is at the same time a consciousness of the equally necessary unity of the synthesis of all phenomena according to concepts.

Where Kant posits a transcendental ego to account for the experienced identity of the self, other philosophers who hold one or another theory of the soul as an imperishable substance or an unchanging principle seem to find no special subtleties in the problem of the identity of living organisms or persons. So far as such theories bear upon that problem, the consideration of them belongs to the chapter on Soul. Here we are concerned with the notions of same and other as they apply to every thing in the universe. Hence we must face all the problems of how two things can be the same, not merely the problem of self-sameness or the identity of a thing with itself.

THE WORD IDENTICAL is sometimes used as a synonym for same, as when we say that two things are identical in a certain respect. But without the qualification expressed by in a certain respect, it is seldom if ever said that two things are identical for if they can be discriminated from one another in any respect at all they are two, not one, and therefore not identical. This seems to be the sense of Leibnitz's principle of the identity of indiscernibles, concurred in by all who understand identity as the self-sameness of that which is one in number and existence. A plurality of things involves a numerical diversity—each of the many being *an other*. To this extent at least the traditional discussion of same and other tends to merge

with matters discussed in the chapter on ONE AND MANY.

For both Plato and Aristotle the relation between these two pairs—one and many and same and other—seems to be much closer. In the comparison of two things, Aristotle appears to treat sameness as a kind of oneness, referring to the various ways in which two things can be one and the same. Of sameness he says that it is a unity of the being, either of more than one thing or of one thing when it is treated as more than one, and of the one he says that to it belong the same and the like and the equal, and to plurality belong the other and the unlike and the unequal.

The enumeration he gives of kinds of unity seems to be paralleled by his enumeration of kinds of similitude. As a thing may be one essentially or one by accident, so two things may be the same essentially or by accident. Aristotle's statement that some things are one in number, others in species, others in genus, others by analogy, finds its counterpart in his statement that different is applied to those which though other are the same in some respect, only not in number, but either in species or in genus or by analogy.

As indicated in the chapter on RELATION, a distinction is traditionally made between relationships which really exist among things apart from the mind, and logical relationships which occur in thought alone. This distinction seems to separate self-sameness or identity from all relations of similitude which obtain between two things. The relation signified by the term *the same*, Aquinas says, is a logical relation only if it is taken in regard to absolutely the same thing, because such a relation can exist only in a certain order observed by reason as regards the order of anything to itself. The case is otherwise, however, when things are called the same, not numerically, but generally or specifically.

Nevertheless, identity seems to underlie all other relations of sameness; for among things or ideas lacking identity, no comparisons can be made. Those who deny identity on the ground that every thing is in flux, nullify all further discussion of sameness. The theory of a universal flux, which Plato attributes to Heraclitus, permits nothing ever to remain stationary or the

same for an instant and the professed Heraclitean Cratylus went even further according to Aristotle he criticized Heraclitus for saying that it is impossible to step twice into the same river for he thought one could not do it even once

In saying of men that they are *nothing but a bundle or collection of different perceptions* which succeed each other with an inconceivable rapidity and are in a perpetual flux and movement Hume does more than deny personal identity He affirms an utter diversity—as if there were no manner of relation at all—between distinct perceptions each of which is for him a distinct existence The opposite point of view affirms things which have an enduring existence and which can as Aristotle says of substances undergo change in many respects while remaining numerically one and the same

TIME AND CHANGE raise the question of how any one thing can be the same from moment to moment The question of how two things can be one and the same in any respect arises from the simple fact that at the instant of comparison they are two If they were the same only for the comparing mind then their sameness would be a logical and not a real relationship For two things to be the same in reality seems to imply that although two in number they are one in some respect To use Hegel's language there is identity in diversity or in the language of Aquinas a real community exists according to which some one thing is common to two

The problem of the sameness of two things can be stated in terms of the significance of what Hobbes Berkeley and Hume call common or general names Denying that such words as man or tree or stone express abstract or general ideas they seem to say that common names like these signify what is common to two or more individuals—whether things perceptions or ideas Those who like Aristotle Aquinas and Locke take general or common names to signify abstract ideas seem to say such ideas themselves signify that in reality two or more things have something in common Still another view is that apart from all individual things real universals exist as the objects of the mind's conceptions

If the latter alternative is chosen then two individuals—two men for example—may be thought alike only because both somehow resemble as Plotinus suggests the separate archetype Man What is common to the two men lies in a third and separate reality of which Plotinus says that it is present in multiplicity as if in multiple impression from one seal But as Parmenides observes in Plato's dialogue of that name if a separate idea of Man is required to explain how two individuals are alike in being men then still another idea is needed to account for the likeness between each individual man and the idea Man

On the other hand the view that the real sameness of two individuals or the reality of the one kind to which both belong resides in them—in their common possession of the same nature quality or other attribute—seems to lead to the difficulty already intimated namely the difficulty of understanding how distinct existences can have anything in common—how they can be two in number and yet also one in nature If John and James are alike as men because they share a common humanity then can it be said that each has *his own* human nature? If their natures and properties are as individual as their existences how can two things be *really the same* in any respect? Must not kinds or universals—or whatever is supposed to be common to many and the source of their sameness—exist only in the general meaning of words or in the mind's abstract concepts or as separate archetypes? But then what truth is there in the familiar statement that two individual things are in some respect *really* alike or the same?

THESE QUESTIONS indicate that the traditional discussion of the same and the other tends to involve not merely the theory of the one and the many but also in certain issues at least the problem of the individual and the universal As the chapter on UNIVERSAL AND PARTICULAR shows the several positions traditionally taken with regard to universals afford different answers to the problem of how any sameness between two or more things exists The sameness is not a sameness in knowledge (the nature of the thing is the same) but a sameness in reality (the nature of the thing is the same) and the sameness is not a sameness in the mind's conceptions but a sameness in the things themselves

tion or repulsion of like by like) also extend the consideration of sameness and diversity into the field of problems dealt with in other chapters. Here attention must be given to the meaning of sameness itself, as that is affected by the distinction between the same and the similar by the enumeration of various kinds or degrees of likeness, and by the range of opposite meanings in the notions of diversity and difference.

Discussing discrimination and comparison William James for example draws a sharp line between the simple and complex components of our experience. Simple impressions he seems to think are either absolutely alike or absolutely unlike. Here there can be no degrees of resemblance or similarity. Two resembling things, he writes, owe their resemblance to their absolute identity in respect to some attribute or attributes combined with the absolute non identity of the rest of their being. This which may be true of compound things breaks down when we come to simple impressions. The latter apart from their numerical non identity or otherness are either the same in quality or diverse. But compound things may be more or less alike, varying in degree of similarity or difference according to the number of simple respects in which they are or are not the same.

Similarity in compounds, says James, is partial identity, and he gives the following illustrations. The moon is similar to a gas jet, it is also similar to a foot ball, but a gas jet and a foot ball are not similar to each other. Moon and gas jet are similar in respect of luminosity and nothing else, moon and foot ball in respect of rotundity, and nothing else. Foot ball and gas jet are in no respect similar—that is, they possess no common point, no identical attribute.

Other writers seem to agree on this distinction between the same and the similar, the diverse and the different. The latter in both cases combine elements of sameness and diversity to give degrees of likeness. Aquinas for example says that we seek for difference where we also find resemblance. For this reason things which differ must in some way be composite, since they differ in some respect and in some respect they resemble each other. In this sense, although all things that differ are

diverse, yet all things that are diverse do not differ. For simple things are diverse through themselves and do not differ from one another by differences as their components. For instance, a man and an ass differ by the difference of rational and irrational, but we cannot say that these again differ by some further difference.

The specific difference between man and ass with respect to rationality, accompanied by their generic sameness with respect to animality, makes them similar. If they were utterly diverse, i.e. the same in no respect, they would not be said to differ, just as if they were identical in all respects except number, they would not be called similar. The other and the same, writes Aristotle, are thus opposed. But difference is not the same as otherness. For the other and that which it is other than need not be other in some definite respect, but that which is different is different from some particular thing in some particular respect, so that there must be something identical by which they differ.

But within the area of this agreement on fundamental terms, there seems to be some disagreement about whether two things can be utterly diverse. Since they are two, they cannot be the same in *all* respects—certainly not in number—but can they be totally incomparable? James appears to say 'Yes' in his remark about the football and the gas jet having no common point, no identical attribute. Yet he also seems to hold that no two things are ever absolutely incomparable. They may not differ or be similar as the diverse species of the same genus, e.g. man and ass, but regarding them as thinkables or existents, he writes, even the smoke of a cigarette and the worth of a dollar bill are comparable—still more so as perishables or as enjoyables. The gas jet and the football would appear to be comparable also as existents or usables—or even perhaps as bodies.

The question thus arises whether—all things being somehow comparable—they are all the same in genus as for example all three-dimensional material things may be said to belong to the genus body, no matter how much else they differ as species or subordinate kinds within this genus. Kant answers this question by affirming a principle of ultimate homogeneous

ness According to this principle there are no different original and first *genera* as it were isolated and separated from each other but all diverse *genera* are divisions only of one supreme and general *genus* Kant states a correlative principle of variety or specification according to which every *genus* requires *species* and these again *sub-species* and as none even of these *sub-species* without a sphere reason in its utmost extension requires that no species or sub-species should in itself be considered as the lowest

Aristotle's theory of species and genera appears to be exactly opposite to Kant's on both points For Aristotle there is no single all embracing genus but rather a number of diverse yet supreme genera such as substance quantity quality etc There is a finite not an infinite variety of species The lowest species is further divisible only into kinds which differ as individuals of the same species do in accidental not essential respects e.g. white man and red man differ in the same way as John and James do within the species man not as the species man and ass differ within the genus animal Furthermore where Kant insists upon a third principle of continuity according to which between any two species there always remain possible intermediate species differing from the first and the second by smaller degrees than those by which these differ from each other Aristotle seems to find no intermediates possible between the contrary species of a single genus The order of species is for him a discontinuous series like the order of the whole numbers between proximate members of which no fractions are admitted

Does Aristotle's position with respect to the heterogeneity of an animal and the color blue—the one in the genus substance the other in the genus quality—mean that such things absolutely diverse in genus are absolutely incomparable? His answer seems to be twofold In one place he says that things which are diverse in genus may still be the same by analogy things that are one by analogy are not all one in genus In another he gives us an example of analogical resemblance (between the soul and the hand) As the hand is a tool of tools so the mind is the form of forms and sense the form of sensible things

If the example seems inappropriate on the ground that the soul and the hand are of the same genus *etc.* both substances or parts of the same substance *man* it may be necessary to introduce the distinction between natural and logical genera According to this distinction a material and a spiritual substance can both be called substances as a matter of logical classification but they are not in the same genus by their own natures In this sense Aquinas assigns a geometrical solid and a physical body to the same logical genus *body* but regards them as of heterogeneous natures and Descartes calling an extended and a thinking substance both substances insists upon the utter diversity of their natures

An easier example however may not be too difficult to find A man and a number belong to different genera according to Aristotle—one a substance the other a quantity But the man can be related to his sons as the number *one* is related to any other whole number The relation which is the same in both cases is that of priority according to which the man and unity are the principles or generators respectively of his sons and other numbers Here then we see two heterogeneous things—a substance and a quantity—which are nevertheless the same by analogy each standing to another in the same relation both therefore can be called principle or generator analogically

Aristotle's other indication that a special mode of similitude obtains between heterogeneous things occurs in all those passages in which he says that terms like being can be predicated of things in every category or genus Just as James seems to think that any two things may be comparable as thinkables or existents so Aristotle seems to hold that all things though otherwise heterogeneous are at least alike in being *etc.* in having some mode of existence Yet the term being cannot be equated with Kant's single supreme genus Though Aristotle agrees with Kant that every genus must be capable of division into species he does not think that being can be so divided by specific differences

TWO POINTS MUST be observed concerning Aristotle's theory of the predication of terms like being of every thing in the universe

First he repeatedly asserts that being is not said in the same sense of substances quantifies qualities and so forth. Hence when such heterogeneous things are all called beings the implication cannot be that as beings they are all the same. The point seems to be that they are somehow at once both the same and diverse. As to use an example from Aristotle's *Physics* a tone and a taste can both be sharp though the sharpness of a tone is as diverse from the sharpness of a taste as tone and taste are qualitatively diverse from each other so a man and a number can both have being though their modes of being are as diverse as substance is from quantity. If the word similarity were to be used to signify not the combination of separable elements of sameness and diversity but rather the inseparable fusion of the two to constitute a diversified sameness then heterogeneous things should be called similar not the same in being.

Second Aristotle does not identify such similarity of heterogeneous things with the sameness by analogy which heterogeneous things can have. Being is not a relative term and therefore it cannot be predicated analogically as principle or generator can be. Terms which are predicated analogically as principle can be predicated of a father and the number one may signify similarity (in the sense of diversified sameness) rather than simple sameness in a single respect. The relation of generation which creates the analogical similitude between a father and the number one seems to be the same relation in the two cases (between a father and his sons and between one and other numbers) it is not however simply the same for that relation is diversified according as the things related—substances in the one case quantities in the other—are absolutely diverse in genus. But in Aristotle's analysis it does not follow that because some analogical predicates signify diversified rather than simple sameness all do or that because some instances of diversified sameness happen to be analogical (i.e. sameness in a relation) all are.

The interest in Aristotle's separation of these two points lies in the fact that Aquinas combines them in a theory which states that when being and other terms (which are not genera and yet are above all genera) are predicated of

heterogeneous things they must be predicated analogically of them. The existence which is found in all things he says is common to all only according to some sort of analogy not according to the same specific or generic formality. This is most easily seen in the likeness of creatures to God which is solely according to analogy inasmuch as God is essential being whereas other things are beings by participation.

Aristotle's statement that things which are one by analogy are not all one in genus seems to be converted by Aquinas into the proposition that things which are not one in genus and yet are alike in some way are all one by analogy. For Aristotle sameness by analogy may be either simple sameness or diversified sameness (i.e. similarity) and diversified sameness may or may not be analogical that is it may be the kind of similarity which two heterogeneous things have in respect to being or in respect to some relation in which they stand to other things. For Aquinas on the other hand when ever heterogeneous things are the same in any single respect their diversified sameness is always analogical and whenever the similitude between two things is truly analogical then it is always similarity that is a diversified not a simple sameness. Likeness in being according to Aquinas affords us the prime example of a similitude which is at once an analogical and a diversified sameness.

Aquinas applies his theory of the analogy of being to the great traditional issue which puts all theories of similitude to the test—the question of the resemblance between God and creatures or between infinite and finite being. Against the answer first given by Maimonides and later expressed by Spinoza when of all comparisons between God and man he says that His essence could resemble ours in nothing except in name and against those on the other hand who think that whatever names apply to both God and creatures (such as being or good or one) apply simply in the same sense Aquinas seems to take the middle ground. The names which are properly applicable to both God and creatures according to him are said of them not equivocally and not univocally but analogically.

Thus threefold distinction of univocal equivocal

ocal and analogical names especially as it concerns the names of God is discussed in the chapter on SIGN AND SYMBOL. The theological problem of the similitude between God and creatures confronts us with three basic alternatives in man's speculation about the sameness and diversity which exists among all things. We can say (1) that infinite and finite being are

utterly diverse and have no similarity *even* in being. We can say (2) that they are homogeneous—that with respect to being for example they have the kind of sameness which things have when they belong to the same genus. Or we can say (3) that they are only similar in the sense of a diversified sameness whether such similarity is or is not always analogical in character.

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 IIO *IER* *Iliad* BK II [265 283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JA *IES* *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* BK II [265 283] 12d.

**BIBLE REFERENCES** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) II *Esd* as 7 46.

**SYMBOLS** The abbreviation esp calls the reader's attention to one or more especially relevant parts of a whole reference. *passum* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

# 1 The principle of identity the relation of a thing to itself

7 PLATO *Theaetetus* 518d 519b 521b 522b / *Soph* 1 571d 574c esp 572d 573b

8 ARISTOTLE *T p s* BK I CH 7 146 c BK VII CH I 206b d 208a / *Metaphys* BK IV CH 5 528c 530c BK X CH 3 581a d

17 PLOTINUS *Sixth Ennead* TR IX CH I 2 353d 355a

19 AQUINAS *Summa Theologiae* PART I Q 13 A 7 ANS 68d 70d Q 28 A 1 REP 2 157c 158d A 2 REP 1 158d 160 A 3 REP 1 160a c A 4 REP 1 160c 161d Q 40 A 1 RE 1 2 13b 214b

31 DESCARTES *Objections and Replies* 159d 160a

35 LOCKE *Human Understanding* BK I CH III SECT 3-5 113a c BK I CH XV SECT 1 218d 219b BK IV CH I SECT 4 307b c c SECT 8 315b c CH VII SECT 4 337b 338b CH VIII SECT 2 3 345a 346b

53 J MES *Psychology* 299 301a esp 299b [in ]

# 1a Oneness a number or being a mercurialness

7 PLATO *Republic* BK I 392a 394a / *Theaetetus* 1 537b c / *Soph* 1 561d 574c esp 564d 574c

8 ARISTOTLE *Topics* BK VII CH I 206b d 208a / *Generation and Corruption* BK II CH II [338<sup>b</sup> 12 19] 440d-441a n / *Metaphysics* BK III CH I 4 [101<sup>a</sup> 5 25] 519d 520c BK V CH 4 [101<sup>a</sup> 22 26] 535a CH II [101<sup>b</sup> 26-101<sup>b</sup> 14] 538c d BK VII CH 6 569d 570d BK X CH 3 [105<sup>a</sup> 33 34] 581a BK XII CH 8 [107<sup>a</sup> 31 39] 604d BK XIV CH I [108<sup>b</sup> 8 14] 620b / *Soph* BK II CH I [412<sup>b</sup> 6-9] 642c

11 EUCLID *Elements* BK VII DEFINITIONS 1 127a

11 N COMACHIUS *Arithmetica* BK II 838c 839d 840a

17 PLOTINUS *Fourth Ennead* TR IX CH 2 205c 206a CH 5 206d 207a c / *Sixth Ennead* TR I CH 9-1 273c 275d TR VI CH I 5 312c 313b CH II 16 315d 319d TR IX CH I 2 353d 355a

19 AQUINAS *Summa Theologiae* PART I Q 6 A 3 REP 1 29c 30b Q 11 A 1 REP 1 2 46d 47d Q 3 167a 171b *passim* Q 76 A 1 REP 2 388c 391 Q 79 A 5 418c-419b Q 103 A 3 A 5 530 c P R T I II Q 17 A 4 688d-689c

20 AQUINAS *Summa Theologiae* PART III Q 17 806d 809d Q 951b 956b *passim*

31 DESCARTES *Objections and Replies* 153d 156a 224d 225d

33 PASCAL *Pensées* 512 262a

7 KANT *Pure Reason* 99a 108a c esp 100a b 102b c 105a 106b

1b The identity of the changing yet enduring and ideal personal identity the continuity of self the denial of identity in the realm of change

7 PLATO *Cratylus* 94c d 99b 113c 114a c / *Theaetetus* 517d 534b

8 ARISTOTLE *Categorias* c 15 6a 9a / *Physics* bk I 259a 268d bk IV ch II [219<sup>b</sup> 12 32] 299b d / *Metaphysics* bk IV ch 5 [1010 6-38] 529 530a bk XI ch 6 [1063 10-28] 591b

11 NICOMACHUS *Arithmetic* bk I 811b d

12 AURILIUS *Meditations* kvi sect 15 275a b vii sect 6 285d 286a bk ix sect 19 293b

20 AQUINAS *Summa Theologiae* PART III q 79 951b 956b passim

21 MONTAIGNE *Essays* 292c 293b 388c d

35 LOCKE *Human Understanding* bk I ch III sect 4-5 113b c bk I ch I sect 15 12 123d 124 c ch II 126 ch XVII 218d 228 esp bk II 9-26 222a 227d

35 BERKELEY *Human Knowledge* sect 95 431c ch II 139 440d

42 KANT *Pure Reason* 49c 51d esp 51c d 74b 70c 120c 129 esp 121a 124d 126a 128b 200c 204c

46 HEGEL *Philosophy of Right* PART I par 47 24a b

49 DAVID WINSTON *Descent of Man* 297b

53 JAMES FRY *Holiness* 147 149a esp 147b 154a 157a 191a 192b 194b 196a 213a 259b esp 213a 219a 226a 228a 239 240a 258b 259b 299a 301

1 The sameness of things numerically diverse

1 The being of sameness or multitude the relativity of kinds or universals

7 PLATO *Critias* 87d 89a 113 114 c / *Phaedo* 28d 230c 231 232a 240b 246c esp 242c 244b / *Republic* bk x 427c-429c / *Timaeus* 457 d / *Parmenides* 480a 511d / *Theaetetus* 535a 536b / *Symposium* 170 574 / *Philebus* 610d 613a / *Seventh Letter* 509 810b

8 ARISTOTLE *Posterior Analytics* bk I [177<sup>b</sup> 5-9] 105d 106a ch 24 [85 31<sup>b</sup> 3] 116c [85<sup>b</sup> 5 22] 117a / *Sophistical Refutations* ch 2 [178<sup>b</sup> 37 39] 246c / *Metaphysics* bk I ch 6 505b 506b ch 9 508 511c bk II ch 1 [995<sup>b</sup> 3 18] 514a [995<sup>b</sup> 3 -38] 514b [996<sup>a</sup> 4-9] 514c ch 2 [997 34 2] 516a b ch 3 [998<sup>b</sup> 4] 514 d [999<sup>b</sup> 4] 517b 518c ch 4 [1010 1 4] 525 519d 520c ch 6 [1010<sup>b</sup> 3] 521b d ch II ch 8 [133<sup>b</sup> 9-1 34 8] 556d 557b ch I 35<sup>b</sup> 8 3 559b ch I [1037 5-9] 560 ch 3 14 562a 563 ch 5 [40 8 4] 564 ch 6 [104<sup>b</sup> 6- 4] 564d 565 ch x ch 8 [1050<sup>b</sup> 35 5 2] 576d 577a ch x ch 8 586 d ch xi ch I [59 39-8] 587b ch

xii ch 3 [1070 4 30] 599b d bk xiii c 14-5 610a 611d ch 10 618c 619a c

II NICOMACHUS *Arithmetic* bk I 811b d

10 AQUINAS *Summa Theologiae* PART I q 3 a 3 ans 16a d q 15 a 3 r 4 93b 94a q 16 a 7 rep 2 99a d q 29 a 2 rep 4 163b 164b q 30 a 4 170c 171b q 84 a 1 ans and rep 1 440d-442a a 2 ans 442b-443c a 5 446c 447c q 85 a 1 ans and rep 1 451c 453 a 2 rep 2 453d-455b a 3 rep 4 455b 457a PART I-II q 29 a 6 ans and rep 1 748b-749a

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23 HENRY LEITCH *Lectiones* PART I 55b 56a 59d

31 SPINOZA *Ethics* PART II p op 40 SCHOL I 387b 388a

35 LOCKE *Human Understanding* bk III ch III sect 6-20 255c 260a ch VI sect 26-51 274d 283a esp sect 36-37 279a b bk IV ch II sect 31 323c d ch VI sect 4 331d 332b

35 BERKELEY *Human Knowledge* INTRO sect 6-19 405d-410c passim

35 HENRY LEITCH *Lectiones* PART III DIV 125 507b [1a 1]

53 JAMES FRY *Holiness* 299b 300a 305a 314a 873a b

2b The relation between sameness and unity  
sameness as a participation in the one

7 PLATO *Parmenides* 493b-d 498a 499a

8 ARISTOTLE *Metaphysics* x v ch 6 536a 537 ch 9 538c 539a bk x ch 3 581a d

11 NICOMACHUS *Arithmetic* bk II 838c 839c 840a

2c The distinction between sameness and similarity and the composition of sameness and difference  
degrees of likeness and difference

7 PLATO *Protagoras* 49a b

8 ALEXANDER *Topica* bk I ch 16-17 152a b / *Physics* bk VI ch 4 330d 333 / *Metaphysics* bk V ch 9 538 539a ch 8 [24<sup>b</sup> 10-16] 546c ch x c 13 [1054<sup>b</sup> 3 1055 3] 581b d ch 8-9 585b 586

19 AQUINAS *Summa Theologiae* PART I q 3 a 8 r 3 19d 20 q 4 a 3 22b 23b q 1 r 2 46d-47d q 13 62b 75b passim esp a 5 66b 67d q 57 a 2 rep 2 295d 297a q 93 492a 501 passim PART I q 27 a 3 738 739

20 AQUINAS *Summa Theologiae* PART II q 69 a 1 r 885c 886c q 92 a 1 ans and r 7 1025c 1032b

30 BAILEY *No Universal Organism* bk I a h 2 153b APR 7 157b 158d

35 LOCKE *Human Understanding* bk II ch xvi 228

53 JAMES FRY *Holiness* 319b 322 344b 348a esp 347 348a 378b



(2) *The sameness of things numerically & verse*

## 2d The distinction of things in terms of their diversities and differences real and logical distinctions

- 7 PLATO *Phaedrus* 134b m / *Phaedo* 227d 228a / *Theaetetus* 548c 549d / *Statesman* 595a
- 8 ARISTOTLE *Topics* BK I CH 7 146a c CH 16 152a b BK VII CH 1 206b d 208a / *Metaphysics* BK X CH 3 581a d
- 9 ARISTOTLE *Parts of Animals* BK I CH 2 4 165d 168c
- 19 AQUINAS *Summa Theologica* PART I Q 3 A 8 REP 3 19d 20c ■ II A 1 46d 47d Q 13 A 7 ANS 68d 70d Q 14 A 6 ANS 80a 81c Q 28 A 3 160a c A 4 REP 1 160c 161d Q 30 A 1 REP 2 167a 168a Q 31 171b 175c Q 36 A 2 ANS 192a 194c ■ 40 A 2 ANS 3rd REP 3 214b 215b ■ 47 AA 1 2 256a 258c Q 50 A 3 ANS 270a 272a A 4 REP 1 2 273b 274b Q 75 A 3 REP 1 380c 381b Q 76 A 3 REP 4 391a 393m Q 77 A 3 ANS 401d 403a Q 85 A 7 REP 3 459c 460b
- 20 AQUINAS *Summa Theologica* PART III Q 2 A 3 REP 1 713a 714c Q 17 A 1 REP 7 807a 808d
- 31 DESCARTES *Meditations* III 87c d / *Objections and Replies* 114d 115a c 119d 120c 136a ■ 152d 156a 224d 225d 231a 232d
- 31 SPINOZA *Ethics* PART I AXIOM 5 355d PART II PROP 1 2 373d 374a PROP 7 COROL and SCHOL 375a c
- 35 LOCKE *Human Understanding* BK III CH III SECT 13 14 257c 258b CH VI SECT 7 35 270b 274d SECT 36-42 279a 280c BK IV CH I SECT 4 307b c CH III SECT 8 315b c
- 4 HANT *Pure Reason* 99a 108a c esp 100a ■ 102b c 105a 106b 193a 200c esp 197b 198a
- 49 DARWIN *Origin of Species* 25d 29a esp 28b 29a 30d 31b 241d 242a
- 53 JAMES *Psychology* 315a 336a esp 319a 320a 322b 324a b 327a 334a 550b-551b [fn 2] 867a 874a 878a 880b

## 2e The limits of otherness the impossibility of utter diversity

- 8 ARISTOTLE *Categories* CH 4 [1<sup>st</sup> 25 2 4] 5d 6a / *Metaphysics* BK III CH 3 517a 518a BK X CH 3 [1054<sup>th</sup> 14 23] 581b c
- 19 AQUINAS *Summa Theologica* PART I Q 3 A 5 17c 18b A 8 REP 3 19d 20c Q II A 1 REP 2 46d 47d Q 90 A 1 RE 3 480d 481d
- 25 MONTAIGNE *Essays* 516b c 518d 519a
- 31 SPINOZA *Ethics* PART I AXIOM 5 355d PROP 1 2 355d 356a PROP 17 SCHOL 362c 363c P AT III PRO 5 398d
- 42 HANT *Pure Reason* 107b c 197b-198a
- 53 JAMES *Psychology* 320a 322m esp 321a b 341b-345b

## 3 The modes of sameness and otherness or diversity

## 3a Essential sameness or difference and accidental sameness or difference

- 7 PLATO *Republic* BK V 358a 360a
- 8 ARISTOTLE *Topics* BK I CH 5 [101<sup>st</sup> 37 102 17] 144d 145a CH 6 [102<sup>nd</sup> 27 35] 145d BK VI CH 1 [139<sup>th</sup> 24 32] 192a ■ CH 4 194c 196a CH 5 [142<sup>nd</sup> 30-143 8] 196b c CH ■ [144 3 27] 197d CH 6 [144<sup>th</sup> 3] CH 7 [146 35] 198a 200b BK VII CH 2 208a / *Metaphysics* BK V CH 9 538c 539a BK VII CH 12 [1038 8 30] 561d 562a BK X CH 3 [1054 33 32] 581a b
- 9 ARISTOTLE *History of Animals* BK I CH 1 [486 15 487 1] 7b d / *Parts of Animals* BK I CH 2 4 165d 168c / *Generation of Animals* BK V CH 1 [778 15 780] 320a 321a
- 19 AQUINAS *Summa Theologica* PART I Q 3 A 3 16a d Q 4 A 3 ANS 22b 23b Q 29 A 1 REP 3 162a 163b Q 57 A 2 REP 2 295d 297a Q 75 A 3 REP 1 380c 381b Q 77 A 1 REP 7 399c 401b Q 93 A 2 ANS 493a d PART I ■ Q 17 A 4 ANS 688d 689c Q 35 A 8 779c 780c
- 20 AQUINAS *Summa Theologica* PART III Q 2 A 3 REP 1 713a 714c Q 17 A 1 REP 7 807a 808d Q 79 A 1 REP 2 4 951b 953b A 2 REP 1 2 953b 955c
- 31 DESCARTES *Objections and Replies* 136a b 152d 156a 224d 225d 231a 232d
- 31 SPINOZA *Ethics* PART I P OP 4-5 356a b
- 35 LOCKE *Human Understanding* BK III CH III SECT 13 14 257c 258b CH VI SECT 36-42 279a 280c BK IV CH I SECT 4 307b c CH III SECT 8 315b c
- 42 HANT *Pure Reason* 193a 200c
- 49 DARWIN *Origin of Species* 212d 213c

## 3a(1) Specific and generic sameness natural and logical genera

- 8 ARISTOTLE *Topics* BK I CH 7 [1036<sup>th</sup> 23] 146a b / *Physics* BK V CH 4 [227<sup>th</sup> 3 21] 308b c BK VII CH 1 [242 32 34] 326c d CH 4 326d 333a / *Generation and Corruption* on BK II CH II [338<sup>th</sup> 12 19] 440d 441a c / *Metaphysics* BK III CH 3 517a 518a BK V CH 6 [1016 24 31] 536d 537a [1016<sup>th</sup> 32 1017<sup>th</sup> 3] 537c CH 9 [1018 4 1] 538d CH 10 [1018 38 38] 539b c CH 25 [1023<sup>rd</sup> 10-16] 546c BK X CH 1 [1052<sup>nd</sup> 8-17] 578d CH 3 [1054 33 32] 581a b CH 8-9 585b c 586c
- 9 ARISTOTLE *History of Animals* BK I CH 1 [486 15 487 1] 7b d / *Parts of Animals* BK I CH 1 [639<sup>th</sup> 12 39] 161b d CH 2 4 165d 168c
- 12 LUCRETIIUS *Nature of Things* BK II [107<sup>th</sup> 1089] 28d
- 19 AQUINAS *Summa Theologica* PART I Q 3 A 3 17c 18b Q 4 A 3 22b 23b Q II A 1 REP 2 46d 47d Q 15 A 3 REP 4 93b 94 Q 25 A 1 REP 2 157c 158d Q 29 A 2 REP 4 163b 164b

- Q 30 A 4 ANS and REP 3 170c 171b Q 50 A  
2 REP 1 270a 272a Q 57 A 2 REP 2 295d  
297a Q 66 A 2 REP 2 345d 347b Q 75 A 3  
REP 1 380c 381b ■ 76 A 3 REP 4 391a 393a  
Q 77 A 4 REP 1 403a d Q 79 A 5 RE 3 418c  
419b Q 85 A 3 ANS and REP 4 455b-457a  
A 5 REP 3 457d-458d Q 88 A 2 RE 4 471c  
472c Q 93 A 1 REP 3 492a d A 2 ANS 493a d
- 20 AQUINAS *Summa Theologica* PART II Q 61  
A 1 RE 1 54d 55 PART III SUPPL Q 92 A 1  
A 1 1025c 1032b
- 30 BACON *Novum Organum* BK II APH 25  
155a d A II 28 158d 159a
- 35 LOCKE *Human Understanding* BK III CH III  
§ CT 6-20 255c 260a CH IV SECT 16 263b c
- 38 ROUSSEAU *Inequality* 341b 342b
- 42 KANT *Pure Reason* 197b 198a
- 49 DARWIN *Origin of Species* 28b-29a 207a  
208a esp 207d / *Descent of Man* 332b-c  
347a ■
- 53 JAMES *Psychology* 344b 345b 870a 871a
- 3 (2) The otherness of species in a genus the  
d ersity of contraries
- 8 ARISTOTLE *Physics* BK I CH 5 [188 18-25]  
263c CH 6 [189 11 14] 264c [189<sup>b</sup> 23 27] 265b  
BK IV CH 14 [224 2-6] 303d 304a c / *Meta  
physics* BK V CH 10 [1018<sup>a</sup> 25-37] 539a ■ BK X  
CH 4 581d 582c CH 8-9 585b-586c / *Soul* BK  
I CH 1 [402<sup>b</sup> 1-9] 631c d
- 9 ARISTOTLE *History of Animals* BK I CH I  
[486 5 487 1] 7b d / *Parts of Animals* BK I  
CH 2 4 165d 168c / *Politics* K IV CH 4  
[1290<sup>b</sup> 25 36] 489d-490a
- 17 PLOTINUS *Sixth Ennead* TR III CH 18 20  
291 293a
- 18 AQUINAS *Summa Theologica* PART Q 4 A  
3 AN 22b 23b Q 11 A 1 RE 2 46d  
47d Q 5 A 4 273b-274b Q 75 A 3 R 1  
380c 381b PART I 1 Q 23 A ANS 723c  
724
- 20 AQUINAS *Summa Theologica* PART II Q 54  
A 1 R P 1 22d 23d Q 72 A 7 ANS 117a  
118a
- 21 LOCKE *Human Understanding* BK III CH VI  
CT 39 279 280a
- 42 KANT *Pure Reason* 197b-198a
- 49 D KWIN *Origin of Species* 30d 31b 241a  
242
- 53 JAMES *Psychology* 344b 345b 387b
- 3 (3) Ge r coth ra so hete ogenecity
- 8 ARISTOTLE *Category* CH 4 [125-2 4] 5d-6a  
/ *Topics* K I H 15 149d 152 passim H  
16 [107<sup>b</sup> 37]-CH 17 [ 8 4] 152a b / *Physics*  
K VII CH 4 330d 333a esp [ 49 3 24] 331d  
332b / *Metaphysics* BK I H 3 517a 518a  
BK V CH 28 [10 4<sup>b</sup> 0-16] 546c
- 19 AQUINAS *Summa Theologica* ART Q 3 A 5  
17 18b Q 4 A 3 22b 23b Q 88 A 2 R 4  
471c-472
- 42 KANT *Pure Reason* 197b 198a
- 3b Relational sameness sameness by analogy  
or proportional similitude
- 7 PLATO *Gorgias* 267c 268a / *Timaeus* 448b d
- 8 ARISTOTLE *Posterior Analytics* BK I CH 10  
[170<sup>b</sup> 36-32] 105a K II CH 14 [98 20-23] 134a  
CH 17 [99 16] 135b / *Topics* BK I CH 17  
[108 6-14] 152b BK IV CH 4 [124 15 20] 172d  
BK V CH 7 [136<sup>b</sup> 33 137<sup>a</sup> 20] 189a c CH II  
[138<sup>b</sup> 23-27] 191b c / *Physics* BK I CH 7 [191  
8-12] 266d BK VII H 4 [249 22 24] 332b /  
*Generation and Corruption* BK II CH 6 [333  
27-34] 434a / *Meteorology* BK IV CH 9 [387<sup>b</sup> 1  
6] 491c / *Metaphysics* BK V CH II [1016<sup>b</sup> 3-  
1017 3] 537c CH 9 [1018 12 13] 538d BK IX  
CH 1 [1046 4 8] 570d 571a CH 6 [1048 31 8]  
573d 574a BK XII CH 4-5 599d 601a passim  
/ *Soul* BK III CH 7 [431<sup>a</sup> 20-31] 663d 664a CH  
8 [431<sup>b</sup> 20-432<sup>a</sup> 2] 664b ■
- 9 ARISTOTLE *History of Animals* BK I CH I  
[486 15-487<sup>a</sup> 1] 7b d BK VIII CH I [588 18-35]  
114b d / *Parts of Animals* BK I CH 4 167d  
168c CH 5 [645<sup>b</sup> 1-646 5] 169b d / *Genera  
of Animals* BK I CH I [715<sup>b</sup> 7 26] 255d BK  
III CH 10 [760 9 17] 301b / *Ethics* BK II CH 6  
[1096<sup>b</sup> 27-30] 342a BK V CH 3 378c 379b BK  
VIII CH 7 [1158<sup>a</sup> 29-33] 410d / *Politics* BK I  
CH I [ 3 1<sup>b</sup> 29-36] 503a / *Rhetoric* BK I CH 2  
[ 357<sup>a</sup> 25-1358<sup>a</sup> 2] 597c d BK II CH 20 [1393  
22-1394 8] 640d 641d K III CH 4 657b d  
CH 0-11 662c 666b / *Poetics* K CH 2 [1457<sup>b</sup> 6-  
33] 693a
- 11 EUCLID *Elements* BK V 81 98b esp DEFINI  
TIONS 5-6 81a K VII DEFINITIONS 20 127b
- 12 NICOMACHUS *Axiomata* BK II 841c d
- 16 ARISTOTLE *Harmoties of the World* 1078b  
1080a p 1m
- 19 AQUINAS *Summa Theologica* PART I Q 4 A 3  
22b 23b ■ 3 A 4 5-6 66b 68c A 10 72c 73c  
Q 4 A 3 RE 2 77d 78b Q 16 A 6 A 4 98b d  
Q 44 A 3 ANS 240b 241a Q 66 A 2 ANS  
345d 347b Q 93 A 1 REP 3 492a d PART  
I H Q 20 A 3 REP 3 713c 714c Q 27  
REP - 738 739c
- 20 AQUINAS *Summa Theologica* PART II Q 5  
A REP 54d 55c PART I Q 60 A 1 RE  
and REP 3 847b 848a ART III SUPPL Q 66a  
A R 2 845c 846c Q 92 A 1 ANS 1025c  
6-7 1025c 1032b
- 24 RAELA *Gargantua and Pantagruel* II 1  
12d 13b
- 28 HAVET *On Animals* *Genera* 2 23b d  
449a b 469d 470d
- 30 BACON *Novum Organum* REE 172<sup>a</sup> 17b-  
158d
- 31 D CARTES *Objectons* 182<sup>a</sup> 183<sup>a</sup> 184<sup>a</sup>
- 35 LOCKE *Human Understanding* BK II, CH  
XXVI § T 228c
- 35 HUM *Human Understanding* IV T II 11  
8 487b-
- 42 KANT *Pure Reason* 197b 198a  
601d 603a

- (3 *The modes of sameness and otherness or diversity* 3b *Rational sameness: sameness by analogy or proportional similitude*)

- 49 DARWIN *Origin of Species* 212d 213c  
53 JAMES *Psychology* 549b 550a 688a 689b  
passim

- 3c Sameness in quality or likeness variations in degree of the same quality

- 7 PLATO *Parmenides* 493d-494a  
8 ARISTOTLE *Categories* CH 5 [3<sup>b</sup> 3-4 9] 8a b  
CH 6 [6<sup>a</sup> 27 35] 10d 11a CH 8 [10<sup>b</sup> 26-11 19]  
15d 16b / *Topics* BK III CH 5 166b-c / *Physics* s  
BK II CH 9 [217<sup>b</sup> 34-35] 297b / *Generation and Corruption* BK II CH 6 [333<sup>b</sup> 27 34] 434a  
/ *Metaphysics* BK V CH 9 [1018 5 19] 538d  
539a CH 15 [1021 8 14] 542b-c BK X CH 3  
[1024<sup>b</sup> 8 14] 581b

- 9 ARISTOTLE *History of Animals* BK I CH I  
[486 15 487 1] 7b d BK VIII CH I [558 18 31]  
114b d / *Parts of Animals* BK I CH 2 [648<sup>b</sup> 12  
649<sup>b</sup>] 173a 174a

- 17 PLOTINUS *First Ennead* TR II CH 2 7b /  
*Fourth Ennead* TR IX CH 4 206c d / *Sixth Ennead* TR III CH 15 289a-c

- 18 AUGUSTINE *City of God* BK X CH 10 328b

- 19 AQUINAS *Summa Theologica* PART I Q 4 A 3  
ANS 22b 23b Q 42 A 1 REP 224b 225d  
PART II Q 27 A 3 738c 739c Q 28 A 1 R 2  
740b-741a

- 20 AQUINAS *Summa Theologica* PART I II Q 52  
15d 19c Q 72 A 7 ANS 117a 118a ART III  
SUPPL Q 69 A 1 RE 2 885c 886c Q 9 A 1  
ANS and R P 7 1025c 1032b

- 30 BOETHIUS *De Consolatione* Ogeum BK I APR 13 145b-148d

- 31 SIMPLICIUS *Ethics* PART I I B OF 57 SCHOL 415b

- 35 LOCKE *Human Understanding* BK I CH  
XXIII SEC 1 228c BK IV CH II S CT 1 3  
311c 312b

- 42 HANT *Pure Reason* 73c 74a / *Judgment*  
602b 603a esp 602b d [fn.]

- 53 JAMES *Psychology* 310b 322a 329a b 346a  
348a 378b

- 3d Same ess in quantity or equality kinds of equality

- 7 PLATO *Phaedo* 228a 229c / *Parmenides*  
494b-c 500c 502a 508c d 510b 511

- 8 ARISTOTLE *Categories* 6[6<sup>a</sup> 7 35] 10d 11a  
/ *Generation and Corruption* BK I C 6 [333  
2 34] 434a / *Metaphysics* BK V 15 [102  
8 14] 542b-c BK X CH 3 [1024<sup>b</sup> 1 3] 581b  
583a-c

- 9 ARISTOTLE *Ethics* BK V 3-5 378c 381d

- 11 EUCLID *Elements* BK I COMMON NOTION 5 2a  
P OF 4 4a b OF 8 6b 7a OF 26 16a 17b

- 11 NICOMACHUS *Athletics* BK I 821d 822b

- 16 Ptolemy *Harmonies of the World* 1012b-1014b

- 17 PLOTINUS *Sixth Ennead* TR III CH 13 289a-c

- 19 AQUINAS *Summa Theologica* PART I Q 42 A 1  
ANS and REP 224b 225d Q 4 A 2 REP:  
257b 258c

- 20 AQUINAS *Summa Theologica* PART I II C  
114 A 9 ANS 368d 369c

- 35 LOCKE *Human Understanding* BK IV CH II  
SE T 9-10 311b-c

- 50 MARC *Capitol* 19a 25d esp 19d 20b 25a-d

- 53 JAMES *Psychology* 874a 875a

- 4 Sameness and diversity in the order of knowledge

- 4a Likeness or sameness between known and known knowledge as involving imitation intent onality or representation

- 7 PLATO *Phaedrus* 124c 126c esp 126a-c  
*Phaedo* 231b 232b / *Republic* BK III 333b-d  
BK VI VII 383d 398c esp BK VII 397 398c  
BK X 427c-431b / *Theaetetus* 521d 522b  
538d 541a / *Seventh Letter* 809c 810d

- 8 ARISTOTLE *Interpretation* CH I [16 4-9] 25a  
*Metaphysics* BK VII CH 7 [1072<sup>b</sup> 17 24] 602d  
603a CH 9 [1074<sup>b</sup> 36-1075 11] 605c d / *Sou*  
BK I CH 5 [409<sup>b</sup> 18 411<sup>b</sup>] 639c 641a BK II  
CH 5 [416<sup>b</sup> 32 417<sup>b</sup>] 647b [417<sup>b</sup> 17 21] 64 d  
[418 2-6] 648c d BK III CH 2 [422<sup>b</sup> 1 4]  
657d 658a CH 3 [427<sup>b</sup> 16-16] 659c d CH 4  
661b 662c CH 5 [430 14 16] 662c [430<sup>b</sup> 20-22]  
662d CH 7 [431 1-8] 663c CH 8 [432<sup>b</sup> 10-432<sup>b</sup> 2]  
664b-c / *Memory and Reminiscence* CH  
I [450<sup>b</sup> 25 451 19] 691a 692b

- 12 L. CRATIUS *Nature of Things* BK IV [26-109]  
44b 45c [722-817] 53d 54d

- 17 PLOTINUS *Third Ennead* TR VIII CH 6 131  
CH 8 132d 133b CH 9 134 b / *Fifth Ennead*  
TR I CH 4 210b-c TR III C 14-5 217b-218c  
CH 10-13 221b 224b TR V CH I 2 228b-229d  
TR IX CH 7 249b-c / *Sixth Ennead* TR VI CH  
36-41 339c 342c

- 18 AUGUSTINE *Confession* BK X PAR 17 75c d  
PAR 19 76a b PAR 22 24 76d 77c PAR 2 3  
78b d / *City of God* BK VIII C 16 269b

- 19 AQUINAS *Summa Theologica* PART I Q 12 A  
2 51c 52c A 4 REP 53b 54c A II 58b-59a  
Q 14 A 2 REP 2 76d 77d A 5 79a 80a A 6  
RE 1 3 80a 81c A 9 REP 83b d Q 17 91b-  
94a P M Q 18 A 4 107d 108c Q 27 A 4  
REP 2 156b d Q 30 A 2 REP 2 168a 169b  
Q 34 REP 3 185b 187b Q 55 A 2 A 3 and  
R 1 289d 290d A 4 REP 1 3 291a d Q 5  
A 2 A 3 and REP 2 3 295d 297a Q 55 A 4  
301b d Q 75 A 1 REP 2 378b 379c Q 8 A 8  
REP 3 460b 461b Q 87 A 1 REP 3 465a 466c  
Q 93 2 REP 4 493 d PART II Q 25 A 1  
RE 3 740b 741

- 31 DIONYSIUS *Meditation* BK III 84a 85a VI  
99a b / *Object and Replies* 108b 109d  
A 10 131d 132a 219b-c

- 31 SIMPLICIUS *Ethics* PART I A 1 6 355d PART II  
II P OF 7 375a-c OF 11 13 377b 378c

35 L CKE *Huma Under stand ng* BK II CH XXX  
SECT 2 238b B C I XXXI SECT 2 239b d CH  
XXXII SECT 14-16 245 246b K IV CH IV  
SECT II 12 323d 326d

35 BERRILEY *Human Knowl dge* s T I-91  
413a-431a esp SECT 2 4 413b-414a SECT 8-9  
414 d SECT 25 33 417d 419 SECT 43 49  
422a b s CT 56 423c d s CT 86-91 429c  
431 s CT 135-142 440a-441c

35 HU I *Human Understanding* SECT XII D V  
118 504d

42 KANT *Pu e Reason* 7b-d 12c d [fn 1] 15d  
16c 23a 24a 34a 35b 55a 56c 88b 91d  
99a 101b 101d 102a 115b-c / *Judgement*  
550a 551a e

46 H GEL *Phil sophy of Right* PART II par  
146-147 55c 56a

43 JAMES *Psy hlogy* 126b 129a 142 143b  
153b 154a 307a 311a esp 307 309a 325b  
327 esp 326a L [fn 1] 851b 852a

46 The role of d ffer ntia on in definit on  
the di ersity of differences

7 P AT *Pha drus* 134b d / *Th tetus* 548c  
549d / *Soph t* 551 579d sp 552b 561d /  
*Statesman* 580a-608d / *Ph lebus* 610d 613a

8 ARI TOTLE *Top cs* BK I CH 5 [101<sup>b</sup>37 102 17]  
144d 145a CH 18 [108 38 <sup>b</sup>6] 152d BK VI CH  
6 196d 199c BK VII CH 3 [153 13 <sup>b</sup>24] 208b  
209 / *Met phys t* s BK III CH 3 [99<sup>b</sup>21 27]  
517c K VII CH 10 i 558a 562

9 ARI TOTLE *Part of An m ls* K I CH 2 4  
165d 168c

17 PLOTINUS *S xth En e d* TR III CH 8 i  
285 286d CH 16-18 289c 291d

19 AQUINAS *Summa Th olog* P RTI Q I A 2  
RE 3 162 163b Q 75 A 3 RE i 380 381b  
Q 77 A 1 REP 7 399 401b A 3 N 401d 403a  
20 AQUINAS *Summa Th olog c* P RTI I Q 4)  
2 R P 3 2b 4a PART I Q 2 A 1 ANS 710a  
711c

30 B C N *um O g um* BK II APH 24 154c  
155

35 LOCKE *H m n Underst nd g* BK III CH III  
s CT 256 257a H VI 268b 283a pa m

42 KANT *Pu Re son* 193 200 215d 216c

49 D WINO *O gm of Sp cs* 28b III 30d 31b  
241d 242a

53 JA s *Psychology* 344b 345b 669a 671

c Sam ne s and di s ty in the m n ng of  
wo ds or the s gnific nce of te ms the  
un vo al nd th equivo l

7 PL TO *Euthydemu* 65a 84 / *S ph t* 551a  
352 / *Philebus* 609d 610 / *Se x th Letter*  
809 810b

8 ARI TOTLE *C teg ies* CH I 5a b / *Interpr ta*  
I II [6 3-8] 25 / *T ptes* BK II 18  
[1 8 17 37] 152b d K V CH O [4<sup>b</sup>23-25]  
202b [48 38-<sup>b</sup>4] 202 BK V CH I [5<sup>b</sup>8-  
159 2] 215b c / *S pl s i Refut i* I  
[65 > 3] 227b 33 [8<sup>b</sup> 3 ] 251d /

P IJ CS K I CH 2 [18<sup>b</sup>20] CH 3 [18, 10]  
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For Other considerations of sameness or similarity and of the problem of the reality of kinds or universals see FORM 2a IDEA 12 6b ONE AND MANY 1c UNIVERSAL AND PARTICULAR 2a 2c

Matters relevant to the analysis of essential and accidental sameness specific and generic sameness and otherness in species or in genus see EVOLUTION 1b IDEA 4b(3) NATURE 12(1) ONE AND MANY 3b(1) OPPOSITION 1c( ) RELATION 52(4) UNIVERSAL AND PARTICULAR 5b

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## ADDITIONAL READINGS

Listed below are works not included in *Gr 1 Book of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups.

I Works by authors represented in this collection.

II Works by authors not represented in this collection.

For the date, place, and other facts concerning the publication of the works cited consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

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## Chapter 83 SCIENCE

### INTRODUCTION

IN our time science philosophy and religion have come to represent three quite distinct intellectual enterprises. Each appeals for allegiance not merely on the ground that it can answer fundamental questions but also because of its contribution to human life and culture. In other periods philosophy and religion competed for supremacy though as appears in the chapter on *PHILOSOPHY* some philosophers and theologians tried to remove this conflict by arguing for the complete compatibility of reason and faith. Nevertheless before the 19th century the issue if one existed was between philosophy and religion. Science had not yet become sufficiently distinct from philosophy to complicate the picture.

When science and philosophy are not themselves sharply distinguished men are not confronted with three separate claims upon their intellectual allegiance. Modern science as something quite distinct in method and subject matter from traditional philosophy may actually make its appearance as early as the 17th century. But not until Kant are two kinds of science plainly set apart. Not until then are they so defined that one becomes identified with what men have always called philosophy and the other gradually appropriates the name of science and regards itself as a quite separate enterprise.

Kant differentiates between the empirical and the rational sciences. This differentiation tends to correspond with the distinction by others before him of experimental and abstract philosophy. It also corresponds with a later division into the experimental or inductive and the philosophical or deductive sciences. But Kant does not seem to contemplate the possibility of conflict between science and philosophy—between the experimental study of nature and metaphysics or what is for him the

same between empirical and rational physics.

Hume is willing to admit only mathematics to the status of a rational science capable of demonstrating its conclusions with certainty. He insists upon experimental reasoning in the study of nature wherein only probable conclusions can be attained. But he does not make these critical points in terms of science versus philosophy. If the traditional metaphysics is to be rejected it is not because it is philosophy rather than science but because it represents a failure in philosophy or science resulting from the wrong method of dealing with matters of fact.

In the 19th century however Auguste Comte formulates a doctrine which under the title of *Positive Philosophy* explicitly declares that only the positive sciences—the study of natural mental and social phenomena by empirical methods—deserve to be called sciences in the eulogistic sense of that term. In contrast philosophy is mere speculation and religion is superstition. The word speculation is for the positivist only slightly less invidious than superstition. Whereas superstition implies irrational belief speculation represents a futile attempt by reason to go behind the phenomena in order to discover ultimate causes or substances. This cannot result in anything but guesswork or conjecture—never in knowledge or science which are the same for the positivist. For all its show of logic and system philosophy cannot produce conclusions which have the validity or objectivity of science because it tries to do more than explore and describe the phenomena and because it tries to do whatever it does without investigation or experiment.

From many sources in addition to Comte similar views converge to form an attitude generally prevalent in the world today under the name of positivism. All its current varieties

seem to have this much in common the identification of science with knowledge of fact and further the restriction of such knowledge to conclusions obtained and verified empirically. Whatever does not accord with this conception of science is either like mathematics or logic a purely formal discipline or like philosophy and religion it is conjecture opinion or belief—personal subjective even wishful.

It seems appropriate that the most recent author in the set of great books should provide us with a declaration of positivism and that he should set science against philosophy and religion. It is also fitting that he should be a scientist in the field of psychology since psychology is a late comer among the disciplines which once branches of philosophy now claim to be positive sciences. Not only late but last according to Freud for sociology which deals with the behavior of man in society can be nothing other than applied psychology. Strictly speaking indeed there are only two sciences—psychology pure and applied and natural science.

In his *New Introductory Lectures on Psychoanalysis* Freud concludes with a statement of what he calls the scientific *Weltanschauung*. In essence he thinks it asserts that there is no other source of knowledge of the universe but the intellectual manipulation of carefully verified observations in fact what is called research and that no knowledge can be obtained from revelation intuition or inspiration. Freud makes the drastic implications of this statement quite explicit. It is inadmissible to declare he writes that science is one field of human intellectual activity and that religion and philosophy are others at least as valuable and that science has no business to interfere with the other two that they all have an equal claim to truth and that everyone is free to choose whence he shall draw his convictions and in which he shall place his belief.

Such an attitude he goes on is considered particularly respectable tolerant broad minded and free from narrow prejudices. Unfortunately it is not tenable it shares all the pernicious qualities of an entirely unscientific *Weltanschauung* and in practice comes to much the same thing. The bare fact is that truth can not be tolerant and cannot admit compromise

or limitations that scientific research looks on the whole field of human activity as its own and must adopt an uncompromisingly critical attitude towards any other power that seeks to usurp any part of its province.

As a threat to the dominion of science over man and society religion alone is a really serious enemy. Philosophy Freud thinks, has no immediate influence on the great majority of mankind whereas religion is a tremendous force which exerts its power over the strongest emotions of human beings. Religion and science might be compatible if religion offering men something incomparably more beautiful more comforting and more ennobling than anything they could ever get from science would only say It is a fact that I cannot give you what men commonly call truth to obtain that you must go to science.

But religion cannot say that Freud thinks without losing all influence over the mass of mankind and science cannot on its side yield at all in its claim to being the *only* avenue to truth. Employing a method which carefully examines the trustworthiness of the sense perceptions on which it bases its conclusions which provides itself with new perceptions

not obtainable by everyday means and which isolates the determinants of these new experiences by purposely varied experimentation science alone can arrive at correspondence with reality. It is this correspondence with the real external world we call truth and thus when religion claims that it can take the place of science and that because it is beneficent and ennobling it must therefore be true that claim is in fact an encroachment which in the interests of everyone should be resisted.

Philosophy does not seem to Freud to offer men a genuine alternative to scientific truth. Unlike religion it is not in his view necessarily opposed to science at times it even behaves as if it were a science and to some extent makes use of the same methods. But insofar as it parts company with science by clinging to the illusion that it can produce a complete and coherent picture of the universe philosophy must be regarded as an impostor in the halls of knowledge.

The philosophy tries to construct Freud says must needs fall to pieces with



every new advance in our knowledge. Not it self knowledge but mere opinion or speculation philosophy does not any more than religion offer a substitute for science. Both together fall under Freud's interdict. Both together would be outcasts from human culture if what he calls our best hope for the future—that is the intellect—the scientific spirit reason—should in time establish a dictatorship over the human mind.

WILLIAM JAMES ALMOST contemporary with Freud also draws a sharp line between science and philosophy. Writing his *Principles of Psychology* at a time when the experimental methods of the natural sciences especially physiology have just been introduced into the study of mental phenomena he is at pains to define the scope of psychology as a natural science and to separate the questions which can be properly considered by a scientist from those which belong to the philosopher. But unlike Freud James does not seem to regard the philosopher as engaged in a futile effort to solve problems which are either insoluble or better left until science finds means for solving them.

For James the distinction between science and philosophy does not seem to lie only in the methods they employ though the empirical or experimental approach does have a bearing on the kind of problems scientists can undertake to solve and the conclusions they can reach. The problems and the conclusions are themselves characteristically different from those of the philosopher.

The scientist *describes* the phenomena according to James as precisely as possible and as comprehensively but without any implication of finality or totality. He recognizes that his descriptive formulations are tentative and incomplete always subject to the discovery of new data or a more refined presentation of the evidence. Above all he admits that he is only describing not *explaining*—not laying bare the ultimate reality which gives the phenomena their deepest intelligibility or ascertaining the causes which show why not merely how things happen as they do.

In the Preface to his *Principles* James says that he has kept close to the point of view of natural science throughout the book. This

book assuming that thoughts and feelings exist and are vehicles of knowledge thereupon contends that psychology when she has ascertained the empirical correlation of the various sorts of thought or feeling with definite conditions of the brain can go no farther—can go no farther that is as a natural science. If she goes farther she becomes metaphysical. All attempts to explain our phenomenally given thoughts as products of deeper lying entities are metaphysical.

This scientific point of view James admits is anything but ultimate. The data assumed by psychology just like those assumed by physics must sometime be overhauled. The effort to overhaul them clearly and thoroughly is metaphysics. James does not imply that metaphysics cannot perform her task well but he does think that she spoils two good things when she injects herself into a natural science.

Science and metaphysics should be kept quite separate even though the sciences in accumulating a mass of descriptive details run into queries which only a metaphysics alive to the weight of her task can hope successfully to deal with. That will perhaps be centuries hence and meanwhile the best mark of health that a science can show is this unfinished seeming front.

The variance of James' conception of metaphysics and its future from other traditional views on that subject is discussed in the chapter on METAPHYSICS. Here it is relevant to observe that James has a conception of science broad enough to include both the empirical natural sciences and what he calls the pure or *a priori* sciences of Classification, Logic and Mathematics. Yet in his view metaphysics does represent philosophy as opposed to science because it aims at ultimate reality or underlying causes. For example he rejects the theory of a soul not because he knows it to be false but because he thinks it has no place in a psychology which contents itself with verifiable laws and which is to remain positivistic and non-metaphysical.

James seems to embrace the positivist view prevalent in the 19th century and our own day. He limits science to as much as excludes philosophy from the domain of empirical

knowledge. In discussing the possibility of free will he says that Psychology will be Psychology and Science Science as much as ever (as much and no more) in this world whether free will be true in it or not. Science however must be constantly reminded that her purposes are not the only purposes and that the order of uniform causation which she has use for and is therefore right in postulating may be enveloped in a wider order in which she has no claims at all.

THOSE MODERN SCIENTISTS and philosophers who do not make a sharp distinction between science and philosophy and who antedate any explicit formulation of the positivist doctrine nevertheless do for the most part conceive natural science as experimental in its method and as having for its goal the formulation of general laws describing and correlating the phenomena. They do not all exclude causes from the consideration of the natural scientist nor do they all as stringently as James rule out explanation in favor of description or correlation. Furthermore the almost universal emphasis by modern writers upon the experimental character of the natural sciences does not mean a universal identification of science with the experimental disciplines.

Mathematics for example is usually regarded as a science in spite of its being non-experimental. For Locke and Hume as well as for Descartes it exhibits certain characteristics—the self-evidence of principles, the certainty of demonstrations—which make it more genuinely worthy of the high name of science than are the tentative hypotheses and probable conclusions of experimental physics. Other disciplines are called sciences by comparison with mathematics rather than physics. Descartes for instance seems to think that metaphysics can as surely be made a science as mathematics can be. Locke argues that demonstration from axioms is not limited to the science of quantity. As much clarity and certainty is attainable in reasoning about moral matters. Ethics is no less a science than mathematics.

Hobbes appears to take a similar view of politics though it must be noted in his case that he differs from Descartes and Locke from Bacon Hume and others in not distinguishing mathe-

matics from physics with respect to the latter's need for experimental evidence. All the sciences are for him alike in being the demonstrations of consequences of one affirmation to another regardless of the diversity of the matter. The certain and infallible sign that a man is a scientist in any field of subject matter is that he can demonstrate the truth thereof perspicuously to another.

Hobbes furthermore seems to think that what is true of geometry is true of every science namely that it must begin with definitions. In geometry he says men begin at settling the signification of their words which settling of significations they call *definitions*. Without definitions science is impossible. In the right definition of names Hobbes maintains lies the first use of speech which is the acquisition of science and in the wrong or no definitions lies the first abuse from which proceed all false or senseless tenets.

Freud expresses the opposite view which is generally more characteristic of the attitude of the modern scientist especially the experimentalist or empiricist in method. The view is often defended he writes that sciences should be built on clear and sharply defined basal concepts. But in actual fact no science not even the most exact begins with such definitions. The true beginning of scientific activity Freud holds consists rather in describing phenomena and then proceeding to group classify and correlate them. Even at the stage of description it is not possible to avoid applying certain abstract ideas to the material in hand ideas derived from various sources and certainly not the fruit of new experience only.

They must at first necessarily possess some measure of uncertainty there can be no question of any clear limitation of their content. So long as they remain in this condition we come to an understanding about their meaning by repeated references to the material of observation from which we seem to have deduced our abstract ideas but which is in point of fact subject to them.

The basic concepts or definitions of a science are according to Freud in the nature of conventions although he adds everything depends on their being chosen in no arbitrary manner but determined by the important

relations they have to the empirical material

It is only after more searching investigation of the field in question that we are able to formulate with increased clarity the scientific concepts underlying it. Then indeed it may be time to immure them in definitions. The progress of science however demands a certain elasticity even in these definitions. This may not be true of mathematical concepts or definitions but Freud points out the science of physics illustrates the way in which even those basal concepts that are firmly established in the form of definitions are constantly being altered in their content.

WITH THE EXCEPTION OF HOBBS the notion that scientific conclusions can be drawn from definitions or can be established without recourse to experiment is not usually extended by modern writers from mathematics and metaphysics to physics. As the chapter on PHYSICS shows the basic division of the study of nature into philosophical and scientific physics becomes equivalent in modern times to a separation of the philosophy of nature from the experimental natural sciences. We shall return presently to that sense of science in which physics is associated with mathematics and metaphysics as a branch of theoretic philosophy or as one of the speculative sciences. All three disciplines are thought of as proceeding in the same way by the demonstration of conclusions from principles obtained by induction from experience—ordinary sense experience that is not the special experiences artificially contrived in a laboratory under experimental conditions. But it should be observed that in the modern period even those authors who use science in the foregoing sense when they discuss mathematics and metaphysics treat physics differently. They hold that physics must be experimental if it is to be scientific.

In proportion as modern physics becomes more and more the model of science the meaning of the word science tends to become reserved for experimental study or at least for empirical investigation so that non-experimental disciplines like metaphysics or ethics are questioned when they call themselves sciences. Other disciplines try to establish themselves as sciences by imitating physics. Marx for exam-

ple in presenting his own work as economic science seeks to explain how it can be scientific even if it is not experimental.

The physicist he writes either observes physical phenomena where they occur in their most typical form and most free from disturbing influence or wherever possible he makes experiments under conditions that assure the occurrence of the phenomenon in its normality. If experiment in the strict sense is impossible in economics at least the student of economics can be scientific in his effort to observe the phenomena in their most typical form. England Marx thinks offers the most typical example of the capitalist mode of production and the conditions of production and exchange corresponding to that mode. Hence for scientific purposes he has used England as the chief illustration in the development of [his] theoretical ideas.

THE EXPERIMENTAL CHARACTER of modern physics whether it is called natural science or natural philosophy is discussed in the chapter on PHYSICS. The distinction between the construction or use of experiments and the appeal to experience—apart from experiment—either as a source or as a test of scientific formulations is discussed in the chapter on EXPERIENCE as well as in the chapters on HYPOTHESIS and INDUCTION. Here it seems pertinent to note that neither the distinction between induction and deduction nor the distinction between hypotheses and axioms unequivocally marks the line which separates science from philosophy.

Aristotle and Bacon for example regard induction as the source of axioms in metaphysics or *philosophia prima* as well as in physics or the philosophy of nature. They may have different theories of induction but only insofar as one conceives induction as an intuitive generalization from ordinary sense-experience and the other makes induction an inference from experiments does the difference between them seem to have a bearing on the distinction between philosophy and science.

Similarly the difference between the scientist and the philosopher's consideration of hypotheses seems to lie not in the role they play in reasoning or argument but rather in their having or not having a special relation to experience.

mentation either to guide it or to submit to its test

Experiment then seems to be the distinguishing mark of science on the side of method and by an extension of meaning even in those subject matters where experiments in the strict sense—in laboratories with apparatus under controlled conditions—are impossible the scientist differs from the philosopher in an analogous point of method. The scientist investigates, does research, makes observations which go beyond the experiences which ordinary men have in the course of daily life.

It seems to be in this spirit that Newton opens the *Optics* with the statement that "my design in this book is not to explain the properties of light by hypotheses but to propose and prove them by reason and experiments." In the same spirit Faraday says of himself: "As an experimentalist I feel bound to let experiment guide me into any train of thought which it may justify, being satisfied that experiment like analysis must lead to strict truth if rightly interpreted and believing also that it is in its nature far more suggestive of new trains of thought and new conditions of natural power."

Lavoisier imposes upon himself the rule never to form any conclusion which is not an immediate consequence necessarily flowing from observation and experiment. Gilbert criticizes those who write about magnetism without recourse to experiments—philosophers who are not themselves investigators and have no first-hand acquaintance with things. Referring to what has been held by the vulgar and by tradition concerning the motion of the heart and arteries Harvey proposes to separate true from false opinions by dissection multiplied experience and accurate observation.

Even a scientist like Fourier who conceives physical theory as a kind of applied mathematics says that "no considerable progress can hereafter be made which is not founded on experiments for mathematical analysis can deduce from general and simple phenomena the expression of the laws of nature but the special application of these laws to very complex effects demands a long series of exact observations." Like Fourier Galileo also combines mathematics and experiment in the study of nature. But though he is willing to introduce experiments where they

are necessary in order to test rival hypotheses or alternative mathematical formulations of the laws of motion he seems to express a preference for the rigor of purely mathematical physics.

In the Fourth Day of the *Two New Sciences* discussing the parabolic path of projectiles one person in the dialogue Sagredo says that the force of rigid demonstrations such as occur only in mathematics fills me with wonder and delight. The understanding thus derived he adds far outweighs the mere information obtained by the testimony of others or even by repeated experiment. Agreeing with this Salviati another person in the dialogue claims that the knowledge of a single fact acquired through a discovery of its causes prepares the mind to understand and ascertain other facts without need of recourse to experiment precisely as in the present case where by argumentation alone the Author proves with certainty that the maximum range occurs when the elevation is 45. He thus demonstrates what has perhaps never been observed in experience namely that of other shots those which exceed or fall short of 45 by equal amounts have equal ranges.

THE CONCEPTION OF SCIENCE AS CONSISTING IN A rigorous demonstration of conclusions from axioms—whether in mathematics or other subject matters—seems to be modern as well as ancient. It is found in Descartes and Spinoza in Hobbes and Locke as well as in Plato and Aristotle. Holding that science in its entirety is true and evident cognition Descartes may add that it has been mathematicians alone who have been able to succeed in making any demonstrations that is to say producing reasons which are evident and certain yet he also hopes to make metaphysics a science after the model of mathematics.

This conception of science is somewhat qualified by Descartes when he discusses the study of nature. Here he tends toward experimentalism. Here he says that experiments become so much the more necessary the more one is advanced in knowledge. Referring to particular effects which might be deduced from the principles in many different ways he thinks that the only way to overcome the difficulty of discovering the principles on which the effects

do depend is to try to find experiments of such a nature that their result is not the same if it has to be explained by one of the methods as it would be if explained by the other.

On the other hand the conception of science as knowledge founded upon experiment or at least upon extended observation seems to be ancient as well as modern. Aristotle criticizes those of his predecessors in physics whose explanation of the observations is not consistent with the observations. The test of principles in the knowledge of nature, he says, is the unimpeachable evidence of the senses as to each fact. It is for this reason that he praises the method of Democritus as scientific.

Lack of experience, Aristotle writes, diminishes our power of taking a comprehensive view of the admitted facts. Hence those who dwell in intimate association with nature and its phenomena grow more and more able to formulate as the foundations of their theories principles such as to admit of a wide and coherent development, while those whose devotion to abstract discussions has rendered unobservant of the facts are too ready to dogmatize on the basis of a few observations. The rival treatments of the subject now before us will serve to illustrate how great is the difference between a scientific and a dialectical method of inquiry. For whereas the Platonists argue that there must be atomic magnitudes because otherwise

The Triangle will be more than one, Democritus would appear to have been convinced by arguments appropriate to the subject, as drawn from the science of nature.

There are many passages in which Aristotle rejects an astronomical hypothesis because it does not account for the observations or favors one theory against all others because it alone seems to fit the sensible phenomena. So too in his biological works he makes experience the test of theories. Speaking of the generation of bees, for example, he says that if we ever learn the truth about this matter, credit must be given to observation rather than to theories and to theories only if what they affirm agrees with the observed facts. And in his treatise *On the Motion of Animals* he calls for reference to particulars in the world of sense, for with these in view we seek general theories and with these we believe that general theories ought to harmonize.

But Aristotle also defines science as the certain demonstration of universal and necessary conclusions from self-evident principles. Scientific knowledge, he writes, is judgment about things that are universal and necessary and the conclusions of demonstration follow from first principles (for scientific knowledge involves apprehension of a rational ground). The emphasis here is on knowledge of causes and on the certainty and necessity of conclusions which can be demonstrated from axiomatic truths.

By these criteria metaphysics and mathematics are in Aristotle's conception of the three philosophical sciences, perfect examples of scientific knowledge, physics as a general philosophy of nature is also scientific knowledge in this sense, but the particular natural sciences such as astronomy or zoology are more empirical than philosophical in character. At least they involve admixtures of demonstration from principles with the verification of hypotheses by observation. To the extent that they are empirical they are qualified by an uncertainty and a tentativeness in formulation which do not seem to be present in Aristotle's conception of the purely philosophical sciences.

It might even be said that the knowledge of nature which depends on empirical research is not strictly scientific at all. Locke appears to say just that. How far soever human industry may advance useful and experimental philosophy in physical things, he writes, scientific will still be out of our reach. Holding that our knowledge of bodies is to be improved only by experience, Locke adds, "I deny not but a man accustomed to rational and regular experiments shall be able to see farther into the nature of bodies and guess righter at their yet unknown properties than one that is a stranger to them; but yet as I have said, this is but judgment and opinion, not knowledge and certainty. This way of getting and improving our knowledge in substances only by experience and history makes me suspect that natural philosophy is not capable of being made a science."

Whether the experimental study of nature is the type of all scientific knowledge (in its object, its method, and the character of its conclusions) or whether, according to another conception, the philosophical disciplines are the

more perfect perhaps even the only examples of science there seems to be no question that different values attach to these two meanings of science—or as it is currently expressed to science and philosophy

The philosophical sciences may be either theoretic or practical according as they aim at wisdom or at action but they are seldom praised as being useful productively The practical sciences which are also traditionally regarded as branches of moral philosophy—such as ethics politics and economics—may be knowledge put to use in the guidance of individual conduct or the affairs of society but apart from poetics which may direct production in the sphere of the fine arts there does not seem to be any philosophical science or branch of philosophy that provides a mastery of matter or some control over nature None has applications in the sphere of the useful arts

As indicated in the chapters on ART KNOWLEDGE and PHILOSOPHY Bacon appears to take a contrary view Using the word practical to mean productive rather than moral or civil he divides the philosophy of nature into speculative and practical branches He regards mechanics as the application of physics to useful purposes and finds a productive counterpart to metaphysics in what he calls magic

Nor is Bacon's point merely that the real and legitimate goal of the sciences is the endowment of human life with new inventions and riches in opposition to those whom he criticizes for thinking that the contemplation of

truth is more dignified and exalted than any utility or extent of effects In addition he thinks that the truth of science can be tested by its productive utility That which is most useful in practice he writes is most correct in theory

Bacon's position with regard to the productive utility of science would not be contrary to the traditional view if by the philosophy of nature he meant science in the experimental rather than the philosophical sense His emphasis upon experimentation in all parts of the study of nature suggests that that is the case The fact that he places equal emphasis upon machinery and inventions and power over nature also suggests that technology is the other face of any science which is experimental in method

Bacon and Descartes seem to be the first to perceive that knowledge which is experimental in origin must be by its very nature capable of technological applications The instruments and apparatus which Bacon regards as necessary complements of science no less than the machinery and inventions which science can be expected to produce represent the very same techniques of operating upon nature Experimental science is thus seen to be at once the creature and creator of technology As Plato's *Republic* projects a society which cannot be realized unless it is ruled by the science of the philosopher so Bacon's *New Atlantis* prophesies a civilization which the dominance of experimentalism and technology have brought to present reality

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 Hom. *Ilad* bk II [265-283] 12d the number 4 is the number of the volume in the set; the number 12d indicates that the passage is in the 12th edition of page 12.

PAGE SECTIONS. When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 J. M. P. *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page; the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

AUTHOR'S DIVISIONS. One or more of the main divisions of a work (such as PART, BOOK, CHAPTER) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Ilad* bk I [265-283] 12d.

BIBLE REFERENCES. These references are to book, chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) *II Esdras* 7 46.

SYMBOLS. The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference. passim signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Index* consult the Preface.

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8 ARISTOTLE *Posterior Analytics* 97a 137a c esp bk I ch 2 97d 99a / *Physics* bk I ch I [184 0-16] 259 bk II ch 7 275b d / *Metaphysics* k I ch 3 500b 502d bk II ch I 511b d 512b k v ch 2 [10 4<sup>th</sup> 18 7] 523d bk VI ch 547b d 548c bk x ch 7 592b 593a

9 A. 1ST TLE. *Ethics* bk vi ch 3 388b c ch 6 389d

18 AUGUSTINE *City of God* k vii ch -9 265b 271

19 AQUINAS *Summa Theologiae* q 1 aa 1-8 3b 8d pars II bk II q 14 a 1 r 2 677b 678a

20 AQUINAS *Summa Theologiae* a 1 ti II q 54 a 4 rep 3 25b d q 57 a 2 36 37b q 66 a 5 r 3 79b 80 PART II q 9 a 1 ans 424b 425

23 H. B. *Lettera* PART 60a d 65c d 71 d 72 d ART V 267 c

31 D. S. R. *Philosophy* 2 5a / *Dialectic*

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31 S. NOZ. *Ethics* PART II RO 40-43 387a 389b PART V RO 5 8 458d-459b RO 3 459d 460b

35 LOCK *Human Understanding* bk IV c III sec 6 321b c s c 29 322 323a

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42 KANT *Pure Reason* 1 13d 211c 218d 243 250a / *Fundamental Principles of Metaphysics of Morals* 253b 264b d 270c d / *Practical Reason* 360d 361d / *Practical Metaphysics in Elements of Ethics* 365a 366 376c d / *Judgment* 463a 467a 560d 561a 603 b

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7 PL. *Republic* bk VI 386d 388a

9 ARISTOTLE *Ethics* bk V c I 1-11 387a 393b

20 AQUINAS *Summa Theologiae* PART II q 54 a 4 rep 3 25b d q 57 a 36a 37b q 64 a 3 68b 69b q 66 a 5 79b 80

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- 7 PLATO *Clitarchus* 7d 8b / *Statesman* 581a  
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 8 ARISTOTLE *Topics* bk i ch 14 [105 9-29]  
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 9 ARISTOTLE *Poetics* bk i ch 1 [639 37-  
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 1 8 2] 435 436 / *Politics* bk iv ch i  
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 10 PROBLEM *Almagest* bk i 5 6a  
 18 AU TINE *City of God* d bk v ii 4 266d  
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 19 AQUINAS *Summa Theologiae* PART I Q 1 A 4  
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 20 AQUINAS *Summa Theologiae* PART I Q 56  
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- A I R P 3 772b 773a Q 13 A I REP 3 780a  
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 23 HOBBS *Leviathan* PART I 60c 61a 72a d  
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 30 BACON *Advancement of Learning* 16d 17a  
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 82 86b-c / *Novum Organum* bk i aph 3  
 107b bk ii aph 9 140b c  
 31 DESCARTES *Rules of the Method* / *Discourse* PART I  
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 35 LOCK *Human Understanding* bk i ch ii  
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 326b CH XII SECT 8 360c h xvi 394d  
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 35 HUME *Human Understanding* SECT I DIV I 5  
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 36 SWIFT *Gulliver* PART II 78a b  
 38 ROUSSEAU *Inequality* 329a 334a c  
 41 GIBSON *Decline and Fall* 75d 80b passim  
 42 KANT *Pure Reason* 5a 13d 148c 190c 191a  
 234c 235a / *Fundamental Metaphysics of Morals*  
 253a 254b 260d 261b 264b d 266a b  
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 297c 314d 321b 329a 330c 360d 361d / *Preface*  
*Metaphysics* / *Elements of Ethics* 366d 367c /  
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 399 / *Judgment* 461a 475d esp 463a 467a  
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 43 FEDERA *Treatise* 9 47c d NUMB R 31  
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 43 MILL *Liberty* 283d 284b / *Utilitarianism*  
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 46 HE *Philosophy of Right* PREF 5c 6  
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 50 MARX *Capital* 1 6a 11d passim esp 6 d 8a  
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 III *To Destroy War and Peace* bk ix 361d 365  
 I OUGRE II 680d 681a 689b  
 53 J P *Psychology* 865b 866a  
 54 FREUD *Criticism and Its Discontents* 800  
 801b / *New Introductory Lectures* 883 d
- 3b The distinction between a pure and applied science: the relation of science to the useful arts
- 7 PLATO *Lysis* 16c 18b / *Protagoras* 43b d /  
 I 142a 148 / *Gorgias* 261a 262 / *Republic*  
 publ bk vi 392a 398c / *Statesman* 580d  
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 8 ARISTOTLE *Posterior Analytics* bk i c 9  
 [6-9] 130c / *Topics* bk i c 6 [145  
 3] 198d / *Metaphysics* bk i c 1499 500b  
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(3) *The relation of science to action and production*  
 3b *The distinction between pure and applied science the relation of science to the useful arts*

- 9 [1034 21 32] 557c BK IX CH 2 571c 572a CH 5 573a CH 7 [1049 5 12] 574c d BK XII CH 9 [1074<sup>b</sup> 35 1075<sup>a</sup> 2] 605c / *Sense and the Sensible* BK I [436 16-<sup>b</sup>2] 673b / *Youth Life and Breathin* CH 27 [480<sup>b</sup> 21-31] 726d  
 9 ARISTOTLE *Ethics* BK I CH I 339a b CH 7 [1098 28 32] 343d BK VI CH 3 4 388b 389a

- 10 HIPPOCRATES *Ancient Medicine* 1a 9a c esp par 1 4 1a 2c par 14 5a c par 20 22 7b 8d / *Epidem cs* BK III SECT III par 16 59b c / *Surgery* par 1 70b / *Articulations* par 58 112d / *The Law* par 4 144d

- 10 GALEN *Natural Faculties* BK II CH 9 195c 196a

- 11 NICOMACHUS *Arithmet c* BK I 812d 813a

- 12 EPICTETUS *Discourses* BK II CH 17 158d 159b

- 13 VIRGIL *Georgics* 37a 99a pass m esp II [475-515] 65a 66a

- 14 PLUTARCH *Marcellus* 252a 255a

- 16 COPERNICUS *Revolutions of the Heavenly Spheres* BK I 510b

- 19 AQUINAS *Summa Theologiae* PART I Q 17 A 1 ANS 100d 101d

- 20 AQUINAS *Summa Theologiae* PART II Q 57 A 3 ANS and REP 1 3 37b 38a A 4 ANS and REP 2 38a 39a A 5 REP 3 39a 40a Q 95 A 2 ANS 227c 228c

- 23 HOBBS *Leviathan* PART I 73b

- 5 MONTAIGNE *Essays* 450d 451a 523c 524b

- 28 GALILEO *Two New Sciences* SECOND DAY 179c d

- 28 HARVEY *Motion of the Heart* 289d / *Circulation of the Blood* 305a d

- 29 CERVANTES *Don Quixote* PART I 145c d

- 30 BACON *Advancement of Learning* 5b 6a 46b-c 48d-49b 50c 51d / *Novum Organum* BK I APH II 107d PH 81 120b-c APH 85 121d 122d AP 1129 134d 135d BK II APH I-9 137a 140c esp APH 4 137d 138a A II 44-52 175d 195d pass m / *New Atlantis* 199a 214d esp 210d 214d

- 31 DESCARTES *Rules 1a 2a / Discourse* PART VI 66a 67 c

- 34 NEWTON *Principles* 1 b

- 34 HUYGENS *Light* PREF 551b 552a

- 35 LOCKE *Human Understanding* BK IV CH VII SECT II 12 361c 362c

- 35 HUME *Human Understanding* SECT I DIV 5 452d-453b

- 36 SWIFT *Gulliver* PART II 78a b PART III 97b 98a 106a 112a

- 39 SMITH *Wealth of Nations* BK I 5b 6a

- 40 GIBSON *Decline and Fall* 633c 661c 663c

- 42 HANT *Pure Reason* 60a-c / *Fund Prim Meta-physic of Morals* 266c 267a / *Practical Reason*

- 300d [in 1] / *Intro Metaphysic of Morals* 388d / *Judgement* 463a 464c 523d 524b 551a 556a

- 43 MILL *Representative Government* 369a

- 45 FOURIER *Theory of Heat* 172b 181a b 181a 213b

- 46 HEGEL *Philosophy of History* PART I 218d 219a

- 50 MARX *Capital* 170b c 183b 184a 190d [in 2] 239c d 299b d

- 54 FREUD *Psycho Analytic Therapy* 123a 125a / *Civilization and Its Discontents* 777a 778b-d

#### 4 The nature of scientific knowledge

##### 4a The principles of science facts definitions axioms hypotheses

- 7 PLATO *Meno* 183b-c / *Republic* BK VI 383d 388a BK VII 391b 398c esp 397a 398c

- 8 ARISTOTLE *Prior Analytics* BK I CH 30 63d 64b esp [46 18-27] 64a / *Posterior Analytics*

- BK I 97a 122a c esp CH 1 3 97a 100a CH 10-11 104d 106b CH 19 22 111c 115b CH 32 120c 121b BK II CH 9 128a b CH 19 136a 137a c /

- Topics* BK I CH I [100 25 <sup>b</sup>21] 143a b CH 2 [101 34 <sup>b</sup>4] 144a BK VI CH 4 [141 26-142 9] 194c 195c / *Physics* BK VIII CH I [252<sup>a</sup> 20-21] 335d 336b / *Heavens* BK I CH 5 [271<sup>b</sup> 18] 362c d BK III CH 7 [306 1 18] 397b-c /

- Generation and Corruption* BK I CH 2 [316 5 14] 411c d / *Metaphysics* BK I CH 2 [98a 5 <sup>b</sup>10] 500b d BK II CH 2 [99a<sup>b</sup> 16-30] 513a b BK II CH 1 [995<sup>a</sup> 21]-CH [997<sup>a</sup> 14] 513b d 515c

- BK IV CH 3 7 524b 532b BK VI CH I [1025<sup>b</sup> 14 26] 1026<sup>a</sup> 6] 547b d 548a BK XI CH I [1059<sup>a</sup> 14 26] 587a CH 4 [1061<sup>b</sup> 17]-CH 7 [1064<sup>a</sup> 28] 589d

- 587a BK XII CH 4 [1078<sup>b</sup> 18 30] 610b-c /

- Soul* BK I CH I [402 10-403<sup>a</sup> 2] 631b-632a / *Sense of the Sensible* CH I [436<sup>b</sup> 16-2] 673b

- / *Youth Life and Breathin* g CH 27 [480<sup>b</sup> 21 31] 726d

- 9 ARISTOTLE *Ethics* BK I CH 7 [1098 35 <sup>b</sup>18] 343d 344a BK VI CH 3 [1139<sup>b</sup> 25 34] 388c CH 6 389d

- 11 EUCLID *Elements* BK I DEFINITIONS-COMMON NOTIONS 1a 2a

- 18 AUGUSTINE *City of God* BK VIII CH 2 10 265b 271d pass m

- 19 AQUINAS *Summa Theologiae* PART I Q 1 A 2 ANS and REP 1 4a c Q 17 A 3 REP 1 2 102d 103c Q 32 A 1 REP 2 175d 178a Q 16 A 3 REP 4 194c 195d Q 85 A 6 ANS 458d 459c

- 20 AQUINAS *Summa Theologiae* PART II Q 1 A 2 ANS 221d 223a PART II II Q 1 A 5 REP 1 383b 384b

- 23 HOBBS *Leviathan* PART I 56b d 58a-61a PART IV 268c d

- 28 CILBERT *Load* 10 PREF 1b-c

- 28 GALILEO *Two New Sciences* THIRD DAY 197b d 200a d 207d 208a 236d 237a

- 28 HARVEY *On Animal Generation* 334c d

- 30 HUME *Advancement of Learning* 56c 59c / *Novum Organum* BK I APH 63 113d 114

- APH 8 -83 120d 121b APH 103 106 127d 128c  
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- 31 DESCARTES *Rules* III 4a 5a IV 5c d III  
VIII 13c d IX 15b-c / *Discours* = PART II 47a  
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- 31 SPINOZA *Ethics* PART II PROP 40 387a 385b  
33 PASCAL *Pensées* I 171a 172a / *Geometrical*  
*Demonstrations* 430b-434b passim
- 34 NEWTON *Principia* I 2a 2b DEFINITIONS LAWS  
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- 34 HUYGNS *Light* CH I 553a CH V 600a 601b
- 35 LOCKE *Human Understanding* g BK III CH XI  
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- 35 HUME *Human Understanding* SECT I DIV 2  
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- 42 KANT *Pure Reason* 68 69c 179d 182b 211c  
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- 43 FODOR *Realist Number* 31 103c 104a
- 43 MILL *Utilitarianism* 445a 447a passim 461c  
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- 43 LAVOISIER *Elements of Chemistry* FR F 1b-c
- 43 FOURIER *Theory of Heat* 169b 170a 172a
- 46 HEGEL *Philosophy of Right* INTRO par 2 9b  
10 PART III par 379 93b / *Philosophy of*  
*History* INTRO 157b 158a
- 46 JAMES *Psychology* xiiib 862a 864a passim
- 54 FREUD *Narcissism* 400d 401a / *Introductory*  
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- 46 The objects of science the essential and  
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- 7 PLATO *Republic* x v 370d 373c BK V VII  
383d 398c = p k vii 391b 398c / *Phaedrus*  
633 635a esp 634b 635
- 8 ARISTOTLE *Prior Analytics* I k i CH 13 [32<sup>a</sup> 4-  
23] 48b-d / *Posterior Analytics* I k CH 4-9  
100 104d CH 30-31 119d 120 CH 33 121b  
122 c BK II CH 1 212b d 123 CH 19 136a  
137a c / *Metaphysics* I k CH 1 2 499a 501c  
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*Sul* k c i i [402 10-4 3 2] 631b 632a
- 9 ARISTOTLE *Prior Analytics* k 161a 169d  
esp CH 5 [644<sup>a</sup> 2-645 37] 168c 169b / *Ethics*  
BK V c i 3 [39 8 25] 388b c k x CH 9  
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- 11 NI MAHU *Aukmet* BK I 811a 812a
- 19 AQUINA *Summa Theologiae* PART Q 57  
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- 20 AQUINA *Summa Theologiae* I I Q 84  
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- 20 HILBERT *Letztan* ART I 60a b
- 28 GALILEO *Two New Sciences* THIRD DAY  
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- 30 BACON *Advancement of Learning* 42a-c 43a-c  
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BK II APH 2 20 137b 153a
- 31 DESCARTES *Rules* II 2a 3b VI 8d 9a XIV  
30d 32a / *Discours* I ART II 47b d PART V  
54c 55a b
- 31 SPINOZA *Ethics* PART II PROP 37 47 386b  
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- 34 NEWTON *Principles* I 2a BK III RULE III  
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- 35 LOCKE *Human Understanding* BK III CH VI  
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29 322c 323a CH VI SECT 13 335 d
- 35 BERKELEY *Human Knowledge* SECT 106  
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- 35 HUME *Human Understanding* SECT IV DIV  
20 21 458a-c SECT VII DIV 131-132 508d  
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- 42 KANT *Pure Reason* 46d-47c / *Introductory* 550a  
*Phenomenon of Metaphysics* 387a d / *Judgement* 550a  
551a c 562d 563b 564a-c 581a 582c 603d  
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- 45 LAVOISIER *Elements of Chemistry* FR F 1b
- 45 FOURIER *Theory of Heat* 169a 177a 183a  
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- 45 FARADAY *Researches in Electricity* 851b c
- 49 DARWIN *Origin of Species* 239c
- 53 JAMIS *Psychology* 89b-90b 647b 648b  
876a b 882a 884b
- 54 FREUD *New Introductory Lectures* 874a b  
879c d
- 4c The role of causation in science explanation  
and demonstration as methods of scientific  
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- 7 PLATO *Men* 188b 189a / *Phaedo* 240d 246  
/ *Republic* BK VI VII 383d 398c / *Timaeus*  
455a b
- 8 ARISTOTLE *Posterior Analytics* I 97a 137a c pas  
sim ep BK I CH 1- 122b d 123c CH 9  
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/ *Physics* BK II CH 7 [194<sup>b</sup> 16-23] 271a = CH 7  
[198<sup>a</sup> 22 24] 275b k IV H 4 [211 6-11] 290a  
/ *Metaphysics* I k CH 1 [931<sup>a</sup> 24-932 1] 499  
500b H 2 [982 28 3] 500c BK I CH 2  
[993<sup>b</sup> 16-31] 513a b BK II CH 2 [996 8-26]  
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k VII CH 7 565a 566a c k VIII CH 4  
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- 9 ARISTOTLE *Part of Animals* k CH I  
[639<sup>b</sup> 10-642<sup>a</sup> 4] 161d 165d esp [64 1-30] 165a =  
/ *Generation of Animals* BK I CH 1 [7 8] 255 = k IV  
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320d / *Ethics* BK CH 7 [98 35-58] 343d  
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- 10 GLEN *Natural Faculty* I k CH 4 169a
- 12 LIOU *Natural Faculty* f Th g BK V [509-533]  
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- (4 *The nature of scientific knowledge 4c The role of cause in science explanation and description as aims of scientific inquiry*)
- 16 COPERNICUS *Revolutions of the Heavenly Spheres* 505a 506a
- 16 KEPLER *Epitome* BK IV 958b 960a
- 19 AQUINAS *Summa Theologica* PART I Q 19 A 5 ANS and REP 2 112d 113c Q 32 A 1 REP 2 175d 178a Q 57 A 3 ANS 297b 298a Q 86 A 4 ANS 463d-464d
- 20 AQUINAS *Summa Theologica* PART II Q 9 A 2 ANS 424b-425a
- 23 HOBBS *Leviathan* PART I 60a b PART IV 267a-c
- 28 GILBERT *Loadstone* BK I 5a 7a passim BK II 27b-c
- 28 GALILEO *Two New Sciences* THIRD DAY 202a 203a FOURTH DAY 252a b
- 28 HARVEY *Circulation of the Blood* 319c / *On Animal Generation* 335 336c 393b c 425a
- 30 B CON *Advancement of Learning* 42a c 43a c 45a-46a 46c-47c / *Novum Organum* BK I APH 48 110d 111a APH 99 127b-c APH 121 132b d BK II APH 2 3 137b d / *New Atlantis* 210d
- 31 DE CARTES *Rules* IX 15b d / *Discourse* P RT VI 61d 62c 66a b / *Meditations* III 84a 87a IV 90a b / *Objections and Replies* ATOM I 181d 158b 162a 215a b
- 31 SPINOZA *Ethics* PART I AXIOM 4 355d PROP 8 SCHOL 2 356d 357d AP ENDIX 369b 372d PART IV PREF 422b d-424a
- 34 NEWTON *Principles* 1b 2a DEF VIII 7b 8a BK III RUL I II 270a GENERAL SCHOL 371b-372a / *Optics* BK III 541b 542a 543a 544a
- 34 HUYGENS *Light* CH I 553a B
- 35 LOCKE *Human Understanding* K IV CH III SECT 9-17 315c 317c SECT 28 29 322a 323a CH VI SECT 5 15 332b 336d passim
- 35 BERKELEY *Human Knowledge* SECT 29 33 418c-419a esp SECT 32 418d-419 SECT 50-53 422c-423a passim SECT 60-66 424b-426a esp SECT 65-66 425d-426a SECT I 2 109 432d 434b
- 35 HUME *Human Understanding* S CT I DIV 9 454c-455a SECT IV DIV 21 22 458b-459a DIV 26 460b-c SECT VII DIV 57 475d-476b [In 2] DIV 60 477a SECT VIII DIV 67 480c 481 DIV 70 481d-482a SECT IX DI 82 487b-c SECT XII DIV 132 509a d esp 509b-c
- 39 SMITH *Wealth of Nations* BK V 335b-336d
- 42 KANT *Pure Reason* 46d-47c / *Fundamental Principles of Metaphysics of Morals* 285c 286a / *Practical Reason* 311d 314d / *Judgement* 557c 558b 564a c 581a 582c
- 45 LAVOISIER *Elements of Chemistry* K RT: 9d 10b
- 45 FOURIER *Theory of Heat* 169a 183a 184a
- 45 FRYDAY *Researches in Electricity* 298d 410b d

- 46 HEGEL *Philosophy of History* INTRO 157b 158a
- 49 DARWIN *Origin of Species* 239c 240d
- 51 TOLSTOY *War and Peace* BK IX 344a b XI 470a c BK XI: 563a b EPILOGUE I 650b EPILOGUE II 694d 696d
- 53 JAMES *Psychology* 69b 70a 89b 90b 324b 742a b 745b 824b 825a 882a 884b passim 885b 886a
- 54 FREUD *Instincts* 412a / *General Introduction* 454b = 484a

#### 4d The generality of scientific formulation universal laws of nature

- 7 PLATO *Republic* BK VI 386d 388a BK VII 391b 398c
- 8 ARISTOTLE *Posterior Analytics* BK I CH 4-5 100a 102b CH II [77-9] 105d 106a CH 13 14 107c 109a CH 24 116b 118a CH 31 120a-c BK II CH 19 136a 137a c / *Metaphysics* BK I CH 2 [98-21 25] 500c BK VI CH I [102b 23 33] 548b = BK VII CH 15 563c 564c BK VI CH 7 [106-13] 592d 593a
- 9 ARISTOTLE *Ethics* BK X CH 9 [1180-13 23] 435b = / *Rhetoric* BK I CH 2 [1356-2b 35] 596b c
- 19 AQUINAS *Summa Theologica* PART I Q 84 A 1 NS 440d-442a
- 28 GALILEO *Two New Sciences* THIRD DAY 197a b 200a b 202d 203a FOURTH DAY 238a
- 28 HARVEY *On Animal Generation* 332a 334d esp 334c d
- 30 BACON *Advancement of Learning* 98c / *Novum Organum* BK I APH 17 25 108a d APH 103 106 127d 128c APH 130 135d 136a c BK I APH 5 138b 139a APH 33 161b d
- 31 DESCARTES *Discourse* PART I 47c d PART V 54c 55b / *Objections and Replies* 167c d
- 31 SPINOZA *Ethics* PART III 395a d
- 33 PASCAL *Vacuum* 358a b
- 34 NEWTON *Principles* 1a 2a BK III RULES 270a 271b PROP 7 281b 282b GENERAL SCHOL 371b-372a / *Optics* BK III 541b-542a 543a b
- 34 HUYGENS *Light* PREF 551b 552a
- 35 LOCKE *Human Understanding* K IV CH I SECT 9 308d 309b CH III SECT 14 316b d SECT 28 29 322a 323a S CT 31 323c d CH VI SECT 4 16 331d 336d passim CH XII SECT 7 13 360b 362d passim
- 35 BERKELEY *Human Knowledge* INTRO SECT 12 408a b SECT 15 16 409a d SECT 62-66 425a-426a SECT 103 109 433a-434b passim S CT 126-128 438b d
- 35 HUME *Human Understanding* S CT I DIV 9 454c-455a SECT IV DIV 26 460b c S CT XII DIV 132 509c
- 42 KANT *Pure Reason* 195d 200 esp 197b 198a 211c 218d / *Judgement* 562d 563b 564a-c 581a 582c
- 45 FOURIER *Theory of Heat* 169 = 173b 175b 177a 184a

- 45 FARADAY *Researches on Electricity* 391a d 398c 406b 440b d 595a 603d 655c 670a b 673b d 674a 851b a 855a c
- 46 HEGEL *Philosophy of Right* ADDITIONS 120 136b-c / *Philosophy of History* INTRO 182d 183c PART IV 361a b
- 47 DWIN *Origin of Species* 98c
- 51 TOLSTOY *War and Peace* BK XI 469a-470c BK XIII 563 II EPILOGUE I 693d 696d
- 53 JALIS *Psychology* 524a 861b 886a passim
- 54 The certitude and probability or the finality and tentativeness of scientific conclusions the adequacy of scientific theories
- 7 PLATO *Republic* BK VI 386d 388a BK VII 397a 398c / *Timaeus* 447b-d
- 8 ARISTOTLE *Prior Analytics* BK I CH 13 [32<sup>b</sup>4-23] 48b d / *Posterior Analytics* BK I CH 2 97d 99a CH 6 102b 103c CH 31 120a c CH 33 121b 122a c / *Metaphysics* BK II CH 5 [287<sup>a</sup>28-288<sup>a</sup>2] 379b-c CH 13 [293 15-31] 384d BK III CH 7 [3 6 i 18] 397b c
- 9 ARISTOTLE *Ethics* BK I CH 3 [109<sup>b</sup>11 27] 339d 340a c i 7 [109<sup>b</sup>20-22] 343c d BK II CH 2 [103<sup>b</sup>26-1104 9] 349b-c BK VI CH 3 388b-c
- 16 PROTOLEMY *Almagest* II 83a BK XIII 429a b
- 16 COPERNICUS *Revolutions of the Heavenly Spheres* 505a 506a
- 16 KEPLER *Epitome* BK IV 888b 890a 929a
- 19 AQUINAS *Summa Theologiae* PART I Q 32 A REP 2 175d 178a Q 57 A 3 ANS 297b 298a Q 8, A 6 458d-459c Q 86 A 4 ANS 463d 464d
- 20 AQUINAS *Summa Theologiae* PART II II Q 4 A 8 409a d Q 9 A 2 ANS 424b 425a
- 23 HOBBES *Leviathan* PART 65c d 71c PART IV 267a b
- 28 GILLESPIE *Two New Sciences* THIRD DAY 200 b 202d 203a
- 30 BACON *Advancement of Learning* 14b 15a 47d-48d / *Novum Organum* BK II A III 9-20 150 153a
- 31 DESCARTES *Rule of Method* I XII 1a 25a passim / *Discourse* ART II 47a-48b PART V 51b 54b PART VI 62b c 66a b / *Meditations* I 76c III 82 d 83c d IV 89b-c V 95b 96a / *Objections and Replies* I 123a d 125a b POSTUM LATE I VII 130d 131c 143 162a 226d 229c d / *Geometry* BK II 304b
- 31 SPINOZA *Ethics* PART I DE 4 373b PRO 37 47 386b 391
- 32 MILTON *Paradise Lost* K V 1 [66-84] 233b 234
- 33 PASCAL *Vacuum* 357a 358b 365b 366a / *Geometrical Demonstrations* I 430b 434b
- 34 NEWTON *Optics* BK I 543a b
- 34 HUYGENS *Light* PR 551b 552a
- 35 LOCKE *Human Understanding* BK IV CH II CT 13 309d 312b passim BK I SE 1 I 4 316b d s r 6 321b c CT 9 322c 323a

- CH VI SECT 5 16 332b 336d passim esp SECT 13 335c d CT XII SECT 7 14 360b 363a passim esp s CT 8 360c SECT 10 361b c
- 35 BERKELEY *Human Knowledge* SECT 58-59 424a b
- 35 HUME *Human Understanding* SECT I DIV 8 454b c SECT IV DIV 20- I 458a-c DIV 26 460b c SECT IV DIV 8 482 487b c SECT XII DIV 129-132 508a 509d
- 36 SWIFT *Gulliver* PART III 118a 119a
- 38 ROUSSEAU *Inequality* 348 =
- 42 KANT *Pure Reason* 129c 130 133c 134d 194b c 218d 222b esp 221c 222b 227a 230 248d 250a c / *Practical Reason* 311d 313d 335b-c / *Introductory Metaphysics of Morals* 387a d / *Judgement* 603a b
- 43 PEARSON *Number* 31 103 104a
- 43 MILL *Liberty* 277a 283d 284b / *Utilitarianism* 445a-447a passim
- 43 LAVOISIER *Elements of Chemistry* PART I 9d 10a 32d 33a
- 43 FOURIER *Theory of Heat* 181b
- 43 FARADAY *Researches in Electricity* 273b [fn 2] 298d 391a-c 774d 775a 850b d 851c
- 49 DARWIN *Origin of Species* 42a 239 / *Descent of Man* 590a
- 53 MESMER *Psychology* 89b 90b 647b-648b esp 648a 655a 659a passim esp 655a 658b 659a 863a 866a esp 863a 864a 882a-884b p sim
- 54 FREUD *General Introduction* 463c d 484 485a 546a b / *Beyond the Pleasure Principle* 661c 662b esp 661d / *New Introductory Lectures* 818c 819b

## 5 Scientific method

## 5a The role of experience observation and experiment

- 7 PLATO *Republic* BK V 386d 388a BK VII 391b 398c / *Timaeus* 453a-c
- 8 ARISTOTLE *Prior Analytics* BK I CH 30 63d 64b / *Posterior Analytics* BK I CH 1 [71 -8] 97a CH 3 [72<sup>a</sup>25 33] 99c CH 18 111b-c CH 31 120a c BK II CH 2 [9 24-3] 123b-c BK 7 [92 34<sup>b</sup>1] 126b CH 9 136a 137a = / *Tips* BK I CH 12 148d CH 18 [1 87 2] 152d BK VII CH 1 [155<sup>b</sup>35-156 7] 211d 212 [156<sup>b</sup>10-18] 212c d / *Physics* BK I CH 1 259a b BK VI CH 1 [352 20-27] 336a b / *Heaven* BK CH 3 [270<sup>b</sup>1 24] 361c 362a BK I CH 3 [93 5 31] 384d BK I CH 7 [306 1 18] 397b c / *Generation and Corruption* BK CH 2 [316 5 14] 411c d / *Metaphysics* BK I CH 1 499a 500b BK XI CH 7 [1 64 4-9] 592b
- 9 ARISTOTLE *History of Animals* BK I CH 6 [491 5 5] 12c d BK I CH 2 [5 10-25] 35a b / *Parts of Animals* BK I CH 4 [666<sup>b</sup>7-10] 193d / *Generation of Animals* BK CH 10 [766<sup>b</sup>27 35] 301d 302 / *Ethics* BK X 19 [8 420-81 4] 435 436 c
- 10 GALILEO *Two New Sciences* I FACULTY I CH 3 173d 177a BK CH 2 199d 200a



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- 19 AQUINAS *Summa Theologiae* PART I Q 84 A 4 ANS 444d-446b
- 21 DANTE *Divine Comedy* PARADISE II [46-105] 108b-d
- 23 HOBBS *Leviathan* PART I 60a d PART II 129a b PART IV 267a b
- 25 MONTAIGNE *Essays* 285c 286a 377a d 516b-c
- 28 GILBERT *Loadstone* PREF 1a b BK I 6a 7a BK II 27b-c BK IV 85b-c
- 28 G LILEO *Two New Sciences* FIRST DAY 131a 138b *passim* THIRD DAY 203d 205b 207d 208c
- 28 H RVEY *Motion of the Heart* 267b d 274b esp 268c d 273c 28 = d 286b 304a c esp 286b-c 295d 296a / *Circulation of the Blood* 320b 322d 323d 324c d / *On Animal Generation* 331b 335c 411c d 451b d 473a
- 30 B CON *Advancement of Learning* 16a 42a-c 43d-44c / *Nocturn Organum* 105a 195d esp BK I APH 8 107c d APH 19 108b APH 22 108c APH 50 111b A 134 111c d APH 70 116b 117a APH 82-83 120d 121b APH 95 1 3 126b 128a APH 121 132b d BK II APH 10-15 140c 149a APH 36 164a 168d APH 38 43 169c 175c / *New Atlantis* 210d 214d
- 31 DE MURZ *Rules* II 2d 3a VIII 12b 13a XII 22c 23a XIV 28a b / *Discourse* PART I 44a-c PART II 50b 51a PART V 56a 59d PART VI 60d 67a c / *Meditations* 1 75a 77c
- 33 P SCAL *Vacuum* 355a 338b / *Weight of Air* 429a
- 34 NEWTON *Principles* BK II RULE III v 270b 271b / *Optics* BK I 379a BK II 543a b
- 34 H YGEM *Light* CH I 553a
- 35 LO KE *Human Understanding* BK IV C I I I SECT 14 316b d SECT 16 317a-c SECT 23 29 321a 323a f I CH XII SECT 9-14 360d 363a
- 35 H KELLY *Human Knowledge* SECT 3 418c SECT 58-59 424 II CT 104 423 b CT 107 434a
- 35 HOME *Human Understanding* SECT IV II 23 27 459a-460d SECT VI DIV 48 471b SECT VII DIV 65 479b-c SECT XI DIV 32 509a d
- 38 RO SSEY *Inequality* 329d 330b
- 42 H NT *Pure Reason* SC 6c 183a c 227b / *F d Pm Metaphysics of Morals* 253a-c 254b-c 263b-c / *Practical Reason* 329d 330c / *Judgement* 562d 563b
- 43 N I *Ur* I a m 446a 461c-464d *passim* esp 463c d
- 45 L VO IER *Element of Chemistry* REF 1c 2b 6d 7a c K I 23c P R I 87b-c
- 45 FOURIER *Theory of Heat* 175b 181b 184
- 45 I D V *Researches in Electricity* 383b c 440b d 467a II 542b-c 607a c 659a 774d
- 46 H C *Philosophy* *fil mory* RT I 361a b

- 49 DARWIN *Origin of Species* 12b-c 14c 18a *passim* 136b 139a *passim* esp 137b-c 149d 150a
- 50 MARY *Capital* 6c d
- 53 J MES *Psychology* 56a 66a esp 56a 57b 61b-64a 122b 127b esp 125b 127b 265a 268a 341a 344b 352b 355b *passim* 538a 677b 862a 865a esp 864a 865a
- 54 FREUD *Interpretation of Dreams* 291d 292a / *Narcissism* 400d-401a / *General Introduction* 488a b 545c d / *New Introductory Lectures* 815a II 879c

5b Techniques of exploration and discovery the ascertainment of fact

- 10 GALEY *Natural Faculties* BK I CH I 173d 177a
- 16 AEPHLE *Epuome* BK IV 907b 908b
- 28 GILBERT *Loadstone* BK II 27c d
- 28 GALILEO *Two New Sciences* FIRST DAY 131a 138b 148c 149c 157b-177a c *passim* THIRD DAY 203d 205b
- 28 H RVEY *Motion of the Heart* 273c d 280c-d 285c d / *On Animal Generation* 331b 333d 335c 336c
- 30 BACON *Advancement of Learning* 13d 14b 15d 16a 30d 31a 34b 56c-60a esp 57d 58b 59c 60a / *Nocturn Organum* BK I APH 50 111b APH 64 114b APH 70 116b 117a APH 82-83 120d 121b APH 98 106 126d 128c APH 109 128d 129c APH 113 130a II APH 121 132b-d BK II APH 4 137d 138b APH 10 140c d APH 21 153a b APH 39 169d 170c APH 45 176a 177c
- 33 PASCAL *Vacuum* 356a 365b / *Great Experiment* 382a 389b / *Equilibrium of Liquids* 390a 403a *passim* esp 390a 392a
- 34 NEWTON *Principles* BK III RULE I II 270a RULE IV 271b / *Optics* BK I 379a 386b 455a BK I 437a-470a BK II III 496a 516a BK II 543a b
- 35 LOCKE *Human Understanding* BK III CH CT 46-47 281d 282b BK IV CH XII SECT 9 3 360d 362d
- 42 H NT *Intro Metaphysics of Morals* 387a b
- 45 L OISE *ER Elements of Chemistry* PART I 10d 12d 17a 20d 22c 24 29d 33b
- 45 FOURIER *Theory of Heat* 169a 175b 184a
- 45 F O WAT *Researches in Electricity* 440b d 607a c 659a 774d
- 49 DARWIN *Origin of Species* 136b 139a *passim*
- 53 J MES *Psychology* 383a b 677b
- 54 FREUD *General Introduction* 545d 546b / *New Introductory Lectures* 831b-c

5c The use of mathematics in science calculation and measurement

- 7 PLATO *Republic* BK VII 391b-398c / *Timaeus* 449b 450a 453b-454a
- 8 A TOTLE *Physics* BK II C I 2 [1917 11] 270b c / *Metaphysics* BK I C I 3 477a-478a c 5 480a 481c / *Metaphysics* BK I C I 3 1997 7 331 516c

- 11 AUGUSTINE *Confessio* s BK V par 3-6 27c 28c / *Christian Doctrine* BK III CH 29 650d 651c
- 20 AQUIN S *Summa Theologiae* PART II II Q 9 A 2 REP 3 424b-425a
- 11 HOES *Leviathan* PART I 58a c PART IV 268c d
- 28 GILLES *Two New Sciences* FIRST DAY 131d 132a 133b 136d 137c 164a 166c SECOND DAY FOURTH DAY 178a 260a c esp THIRD DAY 207d 208c FOURTH DAY 252 b
- 10 BACON *Advancement of Learning* 37b-c 46b c / *Novum Organum* BK II APH 44 48 175d 188b
- 31 DESCARTES *Discourse* PART I 43b
- 34 NEWTON *Principle* I 372a esp 1a 2a DEP V I 7b 8a BK I PROP 69 SCHOL 130b 131a BK II 269a
- 11 HUME *Human Understanding* g SECT IV DIV 27 460c d
- 36 SWIFT *Gulliver* PART II 78b
- 11 LAVOISIER *Elements of Chemistry* PART I 14a-c 33b 36a 41a-44d PART III 96b 103b
- 11 FOURIER *The Theory of Heat* 172a 173b 175b 177 182b 185b 196a 251b passim
- 11 FARADAY *Researches in Electricity* 316b 318c 366d 371d 444a-451a 465d-467a c 768d 773d 778b d 793c 831b-c
- 11 TOLSTOY *War and Peace* BK XI 469a d BK XIV 589 590c 2 LOGUE II 695b c
- 11 JAMES *Psychology* 348a 359a esp 351a 352a 882a 884b esp 884a
- 5d Induction and deduction in the philosophy of nature and natural science
- 8 ARISTOTLE *Physics* BK I CH 30 [46 8 3] 64a K II II 3 [68<sup>b</sup>15-29] 90b-c / *Peter's Physics* BK I CH 1 [71 11] 97 H 3 [72<sup>b</sup>25 33] 99c CH 18 111b-c BK I CH 7 [92 14<sup>b</sup>] 126b / *Physics* BK I CH 2 148d CH 18 [108<sup>b</sup>7 12] 152d K VI I C I [155<sup>b</sup>35 156 7] 211d 212a [36<sup>b</sup>10-18] 212c d CH 14 [164 H 16] 222d / *Physics* K I CH 1 259a b BK V I CH 1 [25<sup>a</sup>20-27] 335d 336b / *Elements* BK I CH 7 [3 6<sup>b</sup>6-18] 397b / *Generation and Corruption* BK I CH 2 [316 5 14] 411c d / *Metaphysics* K X CH 7 [64 4-9] 592b BK XII CH 4 [78 18 3] 610b / *Soul* BK CH 1 [4 10-4 3<sup>a</sup>] 631b 632a
- 9 ARISTOTLE *Generation of Animals* BK III II 1 [60<sup>b</sup>29-32] 301d 302 / *Ethics* K H 4 [1095 30-8] 340 C I 7 [98<sup>a</sup>35<sup>b</sup>] 343d / *Rhetoric* K I CH 2 [1356 36-35<sup>b</sup> 35] 596 598b BK II CH 8 640d 645a
- 10 HIPPOCRATES *Sententiae Medicae* I 81a 3b
- 10 GALEN *Natural Faculty* s BK C I 199 d
- 16 COPELAND *Reflections of the Heavenly Sphere* 505a 506a
- 19 AQUINAS *Summa Theologiae* PART Q 3 A I R 2 175d 178a
- 28 GILLES *Two New Sciences* THIRD DAY 207d 208 COURT D Y 252a b
- 28 HARVEY *Motion of the Heart* 267b d 268a 280c 285c d 295d 296a / *On Animal Generation* on 332a 334d esp 334c d 336b-d 383d
- 30 BACON *Advancement of Learning* g 42a c 57b 58b 61d 96d 97a / *Novum Organum* 105a 195d esp PREF 105a 106d BK I AP I II-26 107d 108d APH 69 116a B APH 103 106 127d 128c BK II APH 10-52 140c 195d
- 31 DESCARTES *Rules* II 2d 3a III 4c d VII 10b 12a XI 17b-18b XII 23b c / *Discourse* PART VI 61d 62c / *Objections and Replies* 167c d
- 33 PASCAL *Vacuum* 365b 371a
- 34 NEWTON *Principles* BK III RULE IV 271b GENERAL SCHOL 371b 372a / *Optics* BK III 543a b
- 34 HUYGENS *Light* PREF 551b 552a
- 35 LOCKE *Human Understanding* K IV II XII SE T 12-13 362a d
- 35 BERKELEY *Human Knowledge* INTRO SECT 15 16 409a d SECT 107-108 434a
- 35 HUME *Human Understanding* SECT I DIV 9 454a 455a SECT III DIV 19 458a c CT IV DIV 26 460b c SECT VIII DIV 6 479b c SECT IX II 82 487b c c CT XII DIV 13 32 508d 509d passim
- 42 KANT *Pure Reason* 195d 197b
- 43 MILL *Utilitarianism* 445a 447b part III 475b d [in 1]
- 43 FARADAY *Researches in Electricity* 659a 774d 775a
- 51 TOULMIN *War and Peace* ILO UE II 690b
- 53 JAMES *Psychology* 674a 675b esp 675b
- 5e The use of hypotheses predict on and verification
- 7 PLATO *Phaedo* 242b 243 / *Republic* BK VI 383d 388 esp 386d 388a K VII 391b 398c esp 397a 398 / *Timaeus* 447a d 462b
- 8 ARISTOTLE *Heaven* BK I CH 5 379b c BK III CH 7 [3 6 1-18] 397b / *Metaphysics* BK I C I 7 [344 9-9] 450b / *Metaphysics* BK XII CH 6 [1 71] CH 7 [107a 22] 601b 602b CH 8 603b 605a
- 10 HIPPOCRATES *Ancient Medicine* part 2 1a d
- 12 LUCRATIUS *Nature of Things* BK V [5 9-43] 67d BK VI [703 7] 89c d
- 16 PROCLAM *Almagest* BK II 83a BK IX 22a BK X II 429a
- 16 COPERNICUS *Revolutions of the Heavenly Sphere* 505a 506a 507a 508a
- 16 KLEIN *Episteme* BK IV 852a 852b 852b-890a 911a b 929 BK V 964b
- 19 AQUINAS *Summa Theologiae* PART Q 3 A REP 2 175d 178a Q 85 A 4 A 4 d 464d
- 28 GILLES *Two New Sciences* BK V 105a b
- 28 HARVEY *Motion of the Heart* 267b d 268a 304a c p 286b c 286b c 286b c 286b c the Bl d 316a
- 30 BACON *No Organum* 167c d 167c d 36 165d 165a

(5) *Scientific method* 5e *The use of hypotheses*  
*prediction and verification*)

- 31 DESCARTES *Discourse* P RT VI 61d 62c 65d 66b
- 32 MILTON *Paradise Lost* BK VIII [66-84] 233b 234a
- 33 PASCAL *Vacuum* 368b 369a
- 34 NEWTON *Principles* BK III RULE IV 271b  
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- 34 HUYGENS *Light* PREF -CH I 551b 553b
- 35 LOCKE *Human Understanding* K IV CH III SECT 16 317a c CH VII SECT 12 13 362a d
- 35 BERKELEY *Human Knowledge* SECT 105 433b-c
- 35 HUME *Human Understanding* S CT IX DIV 8 487b c SECT XI DIV 107 499d 500a
- 38 ROUSSEAU *Equality* 333d 334a 348 c
- 42 KANT *Science of Right* 457a b
- 45 LAVOISIER *Elements of Chemistry* PART I 9d 10b PART II 62a 63a
- 45 FOURIER *Theory of Heat* 184a
- 45 FARADAY *Researches in Electricity* 607a c 758a 759c 777d 778c 850b d 855 c e p 850b d 851c
- 46 HEGEL *Philosophy of History* PART II 285d 286a
- 49 DARWIN *Origin of Species* 239c
- 51 TOLSTOY *War and Peace* BK XIII 563a b  
 EPILOGUE II 694d 696d
- 51 JAMES *Psychology* 95a 357b 647b 648b c p 648a 863a 865a 882 884b passim
- 54 FREUD *Interpretation of Dreams* 351c / *Narcissism* 400d-401d esp 401a / *General Introduction* 483d-485a passim 502d 503a / *Group Psychology* 686c d / *New Introductory Lectures* 840a b
- 6 The development of the sciences
- 8 ARISTOTLE *Metaphysics* BK I CH I [993 30-38] 511b d
- 11 ARCHIMEDES *Sphere and Cylinder* K I 403a b / *Sphere and Cylinder* 520a b / *Quadrature of the Parabola* 527 b
- 16 PTOLEMY *Almagest* BK 6b 10b 12b K III 77a 83b BK V 109a 112a BK V 223 232b BK IX 272a 273a BK XII 465b
- 16 COPERNICUS *Revolutions of the Heavenly Spheres* 505a 509b BK 511a 515a b 517b 520b
- 16 KEPLER *Epitome* BK IV 845a 850 851a 852 853a 857b 863b 907b 910a / *Harmonies of the World* 1009b 1010a
- 25 MONTAIGNE *Essays* 276b 278
- 28 GILLESPIE *Two New Sciences* THE DAY 197 b
- 30 BACON *Advancement of Learning* g IV 15c esp 15a b 16c d 29c 32c = p 30d 31 48d 49b 51d 53d / *Novum Organum* K I P 30-31 109 APH 50 111b P 70 115 116b-130d
- 31 DESCARTES *Discourse* 41a 67a c esp PART VI 60d 6 a e
- 34 NEWTON *Principles* 1a 2a LAWS OF MOTION SCHOL 19b 20a BK II PROP 52 SCHOL 265a b PROP 53 SCHOL 266a 267a / *Optics* BK III 526b
- 34 HUYGENS *Light* PREF CH I 552a 553b
- 35 LOCKE *Human Understanding* g 89 b
- 36 STERNE *Tristram Shandy* 224b 225a
- 39 SMITH *Wealth of Nations* BK V 335b 337b
- 40 GIBSON *Decline and Fall* 23d 148a b
- 41 GIBSON *Decline and Fall* 298a 300a 325d 328a c esp 326b 327b 526c 664d [n 5] 56]
- 42 KANT *Pure Reason* 18 2b [n 2]
- 43 FEDERALIST NUMBER 37 119b d
- 45 LAVOISIER *Elements of Chemistry* = p 3c-4a
- 45 FOURIER *Theory of Heat* 169a b
- 45 FARADAY *Researches in Electricity* 391a-c 440b d 824a b
- 46 HEGEL *Philosophy of History* PART I 217c 219c
- 49 DARWIN *Descent of Man* 590a
- 53 JAMES *Psychology* 3b 4a 37b 125b 12 b passim
- 54 FREUD *Interpretation of Dreams* 137b 139a esp 138d 139a / *General Introduction* 545d 546b 550d 551a / *New Introductory Lectures* 880d 881c
- 6a The technical conditions of scientific progress: the invention of scientific instruments or apparatus
- 16 PTOLEMY *Almagest* BK I 24b 26a BK II 38b 39b BK V 143a 144a 166a 167b
- 16 COPERNICUS *Revolutions of the Heavenly Spheres* BK II 558b 559b 567b 586b 589a K IV 705b 706a
- 16 KEPLER *Epitome* BK IV 908a b
- 30 BACON *Advancement of Learning* g 30d 31a / *Novum Organum* BK I APH 50 111b BK II APH 39 169d 170c APH 45 176a / *Novum Organum* 210d 214d
- 33 PASCAL *Vacuum* 362a
- 34 NEWTON *Optics* BK I 412a-423b
- 34 HUYGENS *Light* CH V 599b 600a
- 35 LOCKE *Human Understanding* BK IV C I SECT 31 361d 362a
- 41 GIBSON *Decline and Fall* 299b d
- 45 LAVOISIER *Elements of Chemistry* PART I 87a 133d passim c p 87 d
- 45 FARADAY *Researches in Electricity* 277d 279a 316b 318c 366d 371d 441a 451a 465d 467a c 768d 773d 778b d 793c
- 50 MARX *Capital* 170 c 187d 188a
- 53 JAMES *Psychology* 126a
- 6b The place of science in society: the social conditions favorable to the advancement of science
- 7 PLATO *Republic* BK VII 395a b / *Symposium* 601c 602c

- 8 APISTOTLE *Metaphysics* BK I CH I [981<sup>b</sup>13  
24] 500a BK II CH [993 30-38] 511b d
- 23 HO BES *Leviathan* PART I 73b PART IV  
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- 28 HA EY *On A mal G erat on* 472d-473a
- 30 B CON *Adia cement of Le ni g 7a* 14c 15a  
29 32 esp 30d 31a 32a 54a b 56b / *N*  
*um O ganum* BK I APH 7 117c d / *Ne o At*  
*l i s* 214a b
- 31 D C RT *D sourse* PART III 51b PART  
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- 35 LO KE *Human Understa ding* BK IV CH XII  
SECT II 361d 362a
- 35 HUME *Human Understandi g* SECT XI DIV  
10 497b d D V 114 503a b
- 36 SWIFT *Gull er* PART II 78a b
- 38 ROUSSEAU *In quality* 365d
- 39 SM TH *Wealth of N tions* BK I 5d 6a
- 40 G B ON *D l n nd Fall* 148a b 158d 159a  
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- 41 GI B M *D l ne d Fall* 327a 328 c pas-  
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- 42 K NT J *dgement* 551a 552a
- 43 CON TITUTION OF THE US ARTICLE I SECT  
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- 43 FEDERAL ST NUB ER 43 139d 140a
- 43 MI L L BERTY 274b 293b p sum p 277  
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- 46 H C L *Ph los phy f Right* P RT III par 70  
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*Ph lo ophy of Hist ry* PART I 277d 278a
- 53 J M S *Psych logy* 865a b [ln ]
- MF EUD *General i tr duct o* 581c / *War and*  
*l ath* 755a / *New Introd ctory Lectur s*  
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- 7 The p a se of science by comp ison with  
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- 7 PLATO *Republ* BK V 370d 373
- 8 A S O L *P terior Analyt* K I CH 33  
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- 12 LUCRET IUS *N tur f Th g* K [6 158]  
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- 14 PLUTAR H *Fer l* 138d / *Am* 435b d
- 16 PY LEMY *Almage t* BK I 5 b
- 16 CO ERN CU *Rea lut m f th He enly*  
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- 16 K E P R *Ep tom* K V 847b
- 10 AQU N *Summa Theol g* RT Q 2  
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- 20 AQUINAS *Summa Theolog ca* PART II II Q  
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- 23 HOBBS *Leviatha* PART I 56b-d 60a-c  
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- 28 GLBERT *Loadstone* P 1c 2a
- 28 GALILEO *Two A w Sciences* FIRST DAY  
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- 30 BACON *Advancement of Lea ning* 13a-c 14b-  
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- 31 DESCARTES *Discourse* A T VI 60d-67a c
- 33 PASCAL *Vacuum* 380b 381b
- 34 NEW ON *Principles* 1a 2
- 35 LOCKE *Human Underst nd ng* 89a b
- 35 HUME *Human U derstand ng* SECT I DIV  
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454a
- 39 S I TH *Wealth of N tions* K V 335b 337a  
esp 336b 337 347c d
- 40 G ON *Decl e and Fall* 159a c
- 42 KANY *Pu e Reason* 1d 2b [ln 2] 129c 130a  
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- 45 FOURIER *Theory of He t* 169a b
- 45 FARAD Y *Resear het n Electricity* 440b d  
534a b 655
- 46 H GEL *Ph l phy f Right* PART III par 319  
106b / *Ph lo ophy f History* PART IV 361b
- 49 DARWIN *Org of Sp cies* 85d 118d
- 53 JAMES *Psy hology* 865b 866 esp 866a b  
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## ADDITIONAL READINGS

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I. Works by authors represented in this collection

II. Works by authors not represented in this collection

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## Chapter 84 SENSE

### INTRODUCTION

THE nature of sensation seems at first to be as obvious as its existence. In the tradition of the great books there may be controversy concerning the existence of sense in plants as well as in animals and there may be controversy over the existence in man of faculties higher than sense. But no one disputes that men and other animals are endowed with a power of sense.

The extent of this power may be questioned but not the fact that animals and men when awake experience sensations or perceive through their senses. Sleep according to Aristotle can occur only in those living things which have the power of sense perception. If there be an animal not endowed with sense perception it is impossible that this should either sleep or wake since both these are affections of the activity of the primary faculty of sense perception.

The existence of the sensible—of an external something which causes sensation and can be sensed—also seems to escape denial or dispute. The existence of a purely intelligible reality—of a world of immaterial things incapable of being sensed—is subject to debate in all periods of western thought. The sensible world is sometimes regarded as the only reality, sometimes it is regarded as mere seeming or appearance in comparison with the reality of purely intelligible being. Men may also differ on the question whether things possess sensible qualities when they are not being sensed. But with few exceptions, notably Berkeley and Hume, the existence of a sensible world of material things is not denied or seriously doubted.

The controversies and issues indicated above are for the most part discussed elsewhere. The chapter on *ANIMAL* considers the sensitivity of plants. There also, as well as in the chapters on *MATTER*, *IDEA* and *MIND* is considered the distinc-

tion between the senses and the higher faculties of reason or intellect. The chapter on *MEMORY AND IMAGINATION* deals with these two functions in their relation to sense and sense perception and the contrast between sensible and intelligible reality as discussed in the chapters on *BEING*, *FORM*, *IDEA* and *MATTER*. Some of these topics necessarily recur here especially as they bear on what for this chapter are the primary problems—the nature of sensation, the analysis of the power of sense and the character of the knowledge which is afforded by the senses.

AS WE HAVE ALREADY observed no difficulty seems to arise at first concerning the nature of sensation. It is supposed by many inquirers early and late in the tradition that matter is sensitive as well as sensible. Animals have sense organs which react to physical stimulation. Bodies either act directly upon the sense organs as in the case of touch and taste or as in the case of vision, hearing and smell they exert their influence through an intervening medium yet in a manner which seems to be no less the action and reaction of bodies.

Those who distinguish between living organisms and inanimate bodies tend to regard sensitivity as a property of living matter but it does not follow for all who make this distinction that other than material factors are needed to explain sensation. On the contrary some writers seem to think that the motions of matter account for sensation as readily as the laws of mechanics account for all the sensible changes we are able to perceive.

Lucetius for example holds that living things consist of body and soul and that the soul (or mind) differs from the body only in the size, the fineness of texture and the mobility of the material particles which compose it. It

as he says by the common motions of the two —body and soul—that sensation is kindled and fanned throughout our flesh. Sensation occurs when the particles of body and soul together are set in motion by the impact of external bodies upon the organs of sense.

When the pupil of the eye receives in itself a certain kind of blow it is said to perceive white color and another again when it perceives black. Similarly every kind of sound and voice is heard when they have found their way into the ears and struck upon the sense with their body for that voice too and sound are bodily you must grant since they can strike on the senses.

Either the external body itself as in touch strikes the sense and sets up those bodily motions in the animal which are sensation or according to Lucretius minute replicas or images —composed of atoms as all things are—fly off from the surface of distant bodies and enter through the pores of our sense organs to awaken in us vision hearing or smell. In either case sensation is a bodily reaction and for Lucretius imagination and memory even thought are consequent motions in the atoms of the mind —further bodily reverberations as it were of sensation on.

The cause of sense writes Hobbes is the external body or object which presses the organ proper to each sense either immediately as in taste and touch or mediately as in seeing hearing, and smelling which pressure by the mediation of nerves and other strings and membranes of the body continues inwards to the brain and heart causes there a resistance or counter pressure or endeavor of the heart to deliver itself which endeavor because outward seems to be some matter without. And this endeavoring or fancy is that which men call sense.

The object seems to be colored or hot or sweet when it causes certain sensations in us which are projected outward upon it in response or counter action to the inward motions it sets up. But says Hobbes these sensible qualities are in the object nothing but so many several motions of the matter by which it presses our organs diversely. Neither in us that are pressed are they anything else but diverse motions (for motion produces nothing but motion).

THE FOREGOING THEORY reducing sensation to bodily motion seems to draw its cogency from the fact that only bodies are sensible that sense organs are bodily parts and that sense organs must be activated by some sort of physical contact for sensations to occur. Some writers like Descartes accept the theory for animals but reject it for men or they distinguish in the case of men between thought and sensation. They regard sensation with its subsidiary functions of memory and imagination as reducible to corporeal motions but refuse to grant that external sense-impressions or interior fancy can produce knowledge without the activity of an immaterial soul.

To animals Descartes declares we can ascribe no knowledge at all but only fancy of a purely corporeal kind. In contrast that power by which we are said to know things is purely spiritual and not less distinct from every part of the body than blood from bone or hand from eye. In men as well as animals the external senses in so far as they are part of the body perceive in virtue of passivity alone just in the way that wax receives an impression from a seal. Fancy or imagination is also a genuine part of the body and memory at least that which is corporeal and similar to that of the brutes is in no respect distinct from imagination.

These corporeal faculties are according to Descartes of use to the understanding or the mind only when it proposes to examine something that can be referred to the body but if it deal with matters in which there is nothing corporeal or similar to the corporeal it cannot be helped by those faculties. Hence for Descartes the mind can act independently of the brain for certainly the brain can be of no use in pure thought its only use is for imagining and perceiving.

For others like William James the distinction between sensation and thought so far as their relation to matter is concerned seems quite untenable. He objects to those who look upon sensational consciousness as something quasi-material hardly cognitive which on need not much wonder about while they regard rational consciousness as quite the reverse and the mystery of it [a] unpeakable. We can correlate consciousness with the brain's



workings only in an empirical fashion James thinks and we ought to confess that no glimmer of explanation of it is yet in sight That brains should give rise to a knowing consciousness at all this is the one mystery which returns no matter of what sort the consciousness or of what sort the knowledge may be Sensations aware of mere qualities involve the mystery as much as thoughts aware of complex systems involve it

Still others like Plotinus and Aristotle think that the mystery of conscious matter is not essentially different from the mystery of living matter for if there is anything mysterious about nutrition and growth or sensation and imagination it consists in the same thing—the union of material and immaterial principles of body and soul

If the soul were a corporeal entity Plotinus writes there could be no sense-perception no mental act no knowledge If the sentient be a material entity (as we are invited to believe) sensation could only be of the order of seal impressions struck by a ring on wax Perception is not a passively received impression It is according to Plotinus an act of awareness determined by the nature and character of the living being in which it occurs In any perception we attain by sight the object is grasped there where it lies in the direct line of vision The mind looks outward this is ample proof that it has taken and takes no inner imprint and does not see in virtue of some mark made upon it like that of the ring on the wax it need not look outward at all if even as it looked it already held the image of the object seeing by virtue of an impress on made upon itself

According to Aristotle two characteristic marks have above all others been recognized as distinguishing that which has soul in it from that which has not—self movement and sensation By self movement he appears to mean such things as the nutrition and growth which is found in plants, as well as the additional animal faculty of local motion Both self movement and sensation require soul as well as body Nothing grows or decays naturally he writes except what feeds itself and nothing feeds itself except what has a share of soul in it So too nothing except what has soul in

it is capable of sensation But the exercise of sense-perception does not belong to soul or body exclusively Sensation is not an affection of the soul by itself nor has a soulless body the potentiality of perception

BUT ARISTOTLE ASKS are all affections of the soul affections of the complex of body and soul or is there any one among them peculiar to the soul by itself? If we consider the majority of them there seems to be no case in which the soul can act or be acted upon without involving the body e.g. anger courage appetite and sensation generally Thinking seems to be the most probable exception but if this too proves to be a form of imagination or to be impossible without imagination it too requires a body as a condition of its existence

Aquinas tries to answer the question Aristotle asks with a threefold distinction which places sensation and imagination midway between the vegetative functions and rational thought The power of thought or the intellectual power Aquinas says does not belong to a corporeal organ as the power of seeing is the act of the eye for understanding is an act which cannot be performed by a corporeal organ like the act of seeing

At the other extreme from this operation of the soul which so far exceeds the corporeal nature that it is not even performed by any corporeal organ are those operations of the soul performed by a corporeal organ and by virtue of a corporeal quality Because it is a kind of self movement digestion requires soul as well as body but it is a corporeal action in the way in which according to Aquinas it involves the action of heat Between these extremes Aquinas places sensation and imagination operations performed through a corporeal organ but not through a corporeal quality

He explains this further by means of a distinction between natural and spiritual immutation—physical and psychic change Natural immutation takes place by the form of the thing which causes the immutation being received according to its natural existence into the thing in which the immutation is effected as heat is received into the heated thing Vegetative activities while remaining psychic in the sense of occurring only in living or be-

souled matter involve only natural immutations in the vital organs involved

In contrast spiritual immutation takes place by the form of the thing causing the immutation being received according to a spiritual mode of existence into the thing in which the immutation is effected as the form of color is received into the eye which does not thereby become colored. Though some sensations may require a natural immutation of the sense organ as hot and cold do all sensations necessarily involve a spiritual immutation which enables the sense-organ to perform its proper act of knowing as the eye knows color without becoming colored. Otherwise Aquinas says if a natural immutation alone sufficed for the sense's action all natural bodies would feel when they undergo alteration.

THESE DIVERSE VIEWS of the nature of sensation seem to be paralleled by diverse views of the sensitive faculty. That the function of the senses is somehow to apprehend or know does not seem to be disputed. But whether the senses—including memory and imagination—are the only faculty of knowing is an issue to which the great books seem to give a variety of answers.

The opposite answers appear to be correlated not only with conflicting positions in respect to body and soul but also with opposing theories of the distinction between men and other animals. Those who hold that the motions of matter are adequate to explain the phenomena of knowing and thinking tend to make sense perception the primary function of the mind and to treat not only memory and imagination but also reasoning or thought as subsequent activities of the same general faculty which receives impressions from external sources in the first instance. Since other animals possess senses and give evidence that perception in the mind has consequences for memory and imagination those who hold this view also tend to attribute thought to animals and to regard man as differing from them only in degree.

Those who take the contrary view that knowing involves an immaterial principle or cause—a soul as well as a body—tend to distinguish the various functions of sense from the activities of thought—such as conception

judgment and reasoning. They also take the position that man while sharing sense perception memory and imagination with other animals alone possesses the higher faculty. The difference between men and brutes is thus conceived as one of kind not of degree when the difference between the senses and the reason in man is also conceived as a difference in kind. A functional relationship between sensation and thought is not thereby denied but a distinct faculty is affirmed to be necessary for going beyond the apprehension of particulars to knowledge of the universal or for rising above the imagination to abstract thought.

The distinction between sense and reason as faculties of knowing is sometimes stated in terms of a difference in their objects—the particular versus the universal becoming versus being the material versus the immaterial. Sometimes it is stated in terms of the difference between a corporeal power requiring a bodily organ and a spiritual power which belongs exclusively to the soul. Sometimes it is stated in terms of the contrast between sense as intuitive and reason as discursive the one beholding its objects immediately the other forming concepts judgments or conclusions about objects which are either beheld by the senses or cannot be intuitively apprehended at all.

The exceptions to the foregoing summary are almost as numerous as the exemplifications of the points mentioned. Nothing less than this intricate pattern of agreements and differences will serve however to represent the complexity of the discussion and the way in which diverse theories of sense imply different views of nature and man of mind and knowledge. The situation can be illustrated by taking certain doctrines which seem to be opposite on most points and then considering other theories which seem to agree on this point or that with both extremes.

WE HAVE ALREADY observed the opposition between Hobbes and Aquinas with regard to matter and spirit in relation to the activity of the senses. Hobbes like Lucretius not only treat all mental phenomena as manifestations of bodily motion but also reduces thought to the train or sequence of images. Images are in turn reducible to the sensations from which they derive.

As we have no imagination Hobbes writes whereof we have not formerly had sense in whole or in parts so we have no transition from one imagination to another whereof we never had the like before in our senses Using the word thoughts to stand for the images derived from sense Hobbes goes on to say that besides sense and thoughts and the train of thoughts the mind of man has no other motion though by the help of speech and method the same faculties may be improved to such a height as to distinguish men from all other living creatures

Only man's use of words makes the difference in the exercise of the imagination that we generally call understanding and which according to Hobbes is common to man and beast Similarly it is only the fact that common names have general significance which gives human discourse the appearance of abstract thought for Hobbes denies abstract ideas Thoughts or images are no less particular than sensations there being nothing in the world universal but names

Berkeley and Hume seem to agree with Hobbes that man has no abstract ideas or universal concepts that all the operations of thought are merely elaborations of the original impressions of sense and that no special power but only the use of language distinguishes men from other animals

Berkeley uses the word idea to stand for sense impressions—ideas actually imprinted on the senses—and for whatever is perceived by attending to the passions and operations of the mind To these two he adds a third ideas formed by the help of memory and imagination either compounding or dividing or barely representing those originally perceived in the aforesaid ways The only difference between the first and the third is that the ideas of sense are more strong lively and distinct than those of the imagination But our ideas of sense and imagination do not cover all the objects of which we can think He admits therefore the possibility of our having notions whereby we understand the meaning of a word like spirit or soul which refers to a substance of which we can form no idea

Hume divides all the perceptions of the mind into two classes or species which are dis-

tinguished by their different degrees of force and vivacity The less forcible and lively are commonly denominated *thoughts* or *ideas* The other he calls *impressions* meaning thereby all our more lively perceptions Impressions are the source of all other ideas the creative power of the mind consisting in no more than the faculty of compounding transposing augmenting or diminishing the materials afforded us by the senses and every simple idea being copied from a similar impression

Yet though Berkeley and Hume seem to agree with Hobbes in reducing all thought to primary sense perceptions and derived memories or imaginations Hume does not attempt to explain thought by the motions of matter Berkeley differs even more radically He denies that matter or bodies exist and so he regards sense perception like all the rest of thought as purely spiritual The soul passively receives its original impressions directly from God and actively forms the ideas it is able to derive from these impressions.

NOR DO ALL THOSE who somehow conceive man as composed of both body and soul agree upon the function of sense in relation to the rest of thought Locke for example uses understanding to cover all sorts of mental activity Mental activity begins with the passive reception of the simple ideas of sense—the impressions produced in us when the bodies that surround us do diversely affect our organs—and the simple ideas of reflection which arise from an awareness of our own mental operations But mental activity also includes the formation of complex ideas by the compounding of simple ones and even the act whereby we form abstract ideas in doing which man in Locke's opinion is distinguished from brutes

All these activities require soul as well as body All are somehow nothing more than a reworking of the original sensations passively received In this last respect Locke's view accords with that of Hobbes Berkeley and Hume though he differs from them with respect to abstract ideas and in his theory of body and soul On the very point which he holds in common with Hobbes Berkeley and Hume Locke seems to disagree with Descartes.

Thinking for Descartes is the activity of a

purely spiritual substance—the rational soul—peculiar to the dual nature of man whereas sensation and imagination common to men and brutes are purely corporeal functions. In man the soul or thinking substance may form certain of its ideas those relative to bodies under the influence of sense or fancy but with regard to other ideas such as those we have of geometrical figures Descartes says he cannot admit that they have at any time entered our minds through the senses. He objects to the use of the word *idea* for images or what he calls pictures in the corporeal imagination *in* some part of the brain. He criticizes those who never raise their minds above the thin *s* of sense so accustomed are they to consider nothing except by imagining it with the result that whatever is not capable of being imagined appears to them not to be intelligible at all.

Against the maxim which Locke no less than Hobbes or Berkeley would approve—that “there is nothing in the understanding which has not first of all been in the senses”—Descartes offers the ideas of God and of the soul as plainly contrary examples ideas clearly in the mind which have no origin in sensation or fancy.

Those who desire to make use of their imagination to understand these ideas he adds act in the same way as if to hear sounds or smell odours they should wish to make use of their eyes.

In making a sharp distinction between the faculties of sense and understanding or reason Descartes seems to share the position of Plato Aristotle Aquinas Spinoza and Kant. Yet for Descartes as for Plato the intellect in its own sphere of objects is like the senses in the *res* since each is able to behold its proper objects intuitively whereas for Kant as for Aristotle sense alone is a faculty of intuition. The ideas by which we apprehend intelligible objects according to Plato Descartes and Spinoza are not derived from sensations or images. According to Aristotle and Aquinas on the other hand the intellect abstracts all its ideas or universal concepts from the particulars of sense.

In this respect Aristotle and Aquinas seem to be in agreement with Locke even though that agreement must be qualified by the observa-

tion that Locke sees no need for a special faculty to obtain abstract ideas. On the other hand Plato Aristotle Aquinas and Descartes all seem to agree in holding that understanding is as immaterial as its objects. Unlike sense which requires bodily organs rational thought is according to them an activity peculiar either to the soul itself or to a power of the soul which is not embodied in an organ as the power of vision is embodied in the eye or the powers of memory and imagination are embodied in the brain.

William James denies this. He holds the view that all forms of consciousness are somehow functions of the brain. Yet he also insists that percept and concept are radically distinct forms of consciousness. To this extent James makes as sharp a separation as the authors above mentioned between the sensory and the rational phases of thought. He places sensation perception memory and imagination on one side and conception judgment and reasoning on the other. But this is for him not a distinction of faculties or powers but only of different functions which one and the same mind is able to perform.

CERTAIN POINTS OR problems in the traditional discussion of sense are unaffected by the basic issues just considered. For example most writers tend to make some distinction between the special exterior senses such as vision and hearing touch and taste and the several interior senses which Aquinas enumerates as the common sense memory imagination and the estimative or cogitative powers. Yet not all who consider memory and imagination as activities consequent upon sense perception call them interior senses. Not all recognize a distinct estimative or cogitative power even when they recognize a kind of thinking about particulars done by animals and men with sensory material. Nor do all who discuss discrimination or comparison and the collation or combining of the impressions received from the special senses attribute these functions to the special faculty which Aristotle first calls the common sense.

Equally the same analytical point is made in different ways. As indicated in this chapter on *QUINTY* the distinction which Aristotle

and Aquinas make between proper and common sensibles according as the quality such as color and odor belongs to a single sense or like shape and motion can be perceived by two or more senses seems to parallel the distinction between what Locke calls secondary and primary qualities. But where Locke and others treat the so called secondary qualities as entirely subjective occurring only in the experience of the sentient organism and having no reality in the sensible thing Aristotle takes a contrary view.

When it is not actually seen or smelled the sensible thing according to Aristotle is potentially colorful or odoriferous just as when it is not actually seeing or smelling the sense of vision or smell is also in a state of potentiality with respect to these qualities. But when the sensible thing is actually sensed then Aristotle says the actuality of the sensible object and of the sensitive faculty is one actuality. The thing is actually colored when it is actually seen though it is only potentially colored when it is merely able to be so seen.

Earlier students of nature he writes were mistaken in their view that without sight there was no white or black without taste no savor. This statement of theirs is partly true partly false sense and the sensible object are ambiguous terms for they may denote either potentialities or actualities. The statement is true of the latter false of the former.

Another example of the same analytical point (which is made differently by different writers) concerns the distinction between sensation and perception. According to William James perception involves sensation as a portion of itself and sensation in turn never takes place in adult life without perception also being there. The difference between them is that the function of sensation is that of mere acquaintance with a fact whereas perception is knowledge about a fact and this knowledge admits of numberless degrees of complication. Hearing a sound is having a sensation but perception occurs when as James points out we hear a sound and say a horse-car.

But James does not agree that when perception is so described it is as other psychologists have suggested a species of reasoning. If ev-

ery time a present sign suggests an absent reality to our mind we make an inference and if every time we make an inference we reason then James admits perception is indubitably reasoning. Only one sees no room in it for any unconscious part. No inference is consciously made in perception and James thinks that to call perception unconscious reasoning is either a useless metaphor or a positively misleading confusion between two different things. In his opinion perception differs from sensation [simply] by the consciousness of further facts associated with the object of sensation. For him perception and reasoning are coordinate varieties of that deeper sort of process known psychologically as the association of ideas.

What James treats as the object of sensation Aristotle refers to as a quality sensed by one or more of the special senses either a proper or a common sensible. What James treats as the object of perception Aristotle calls an accidental object of sense because it is strictly not sensible at all by any of the exterior senses singly or in combination. When we call the white object we see the son of Diogenes or a man we have an example of an accidental sensible or an object incidentally perceived because being the son of Diogenes is incidental in the directly visible white patch we see with our eyes.

This distinction between sensation and perception seems to have a bearing on the problem of the fallibility of the senses. Again the same point seems to be differently made. Aristotle for example holds that whereas each of the senses is normally infallible in the apprehension of its proper object or appropriate quality error is possible in the perception of the complex thing which is not strictly an object of the special senses. While the perception that there is white before us cannot be false he writes the perception that what is white is this or that may be false.

Lucretius likewise insists that the senses themselves are never deceived but that all the errors attributed to the senses are the result of a false inference or judgment which reason makes on the basis of the evidence presented by the senses. That also seems to be the opinion of Descartes who thinks that no direct experience can ever deceive the understanding if

it restricts its attention accurately to the object presented to it. Thus if a man suffering from jaundice persuades himself that the things he sees are yellow, this thought of his will be composite, consisting partly of what his imagination presents to him, and partly of what he assumes on his own account, namely, that the color looks yellow, not owing to the defect in his eye, but because the things he sees really are yellow. We can go wrong only when the things we believe are in some way compounded by ourselves. Descartes holds that no falsity can reside in sensations themselves, but only in those judgments which, on the basis of sensations, we are accustomed to pass about things external to us.

THE MOST FUNDAMENTAL judgment which men make on the basis of sensation is that an external world exists—a reality not of our own making. Descartes argues from the evidence of the senses to the independent existence of a world of bodies. Though Berkeley argues on the contrary that bodies do not exist except as objects of perception, he attributes the sense-impressions over which we seem to have no control to the action of an external cause—to God, who uses them as signs for instructing us. Locke defines sensitive knowledge as that which informs us of the existence of things actually present to our senses. We may know

our own existence intuitively, and God's existence demonstratively, but the knowledge of the existence of any other thing we can have only by sensation. And though he adds the notice we have by our senses of the existing of things without us, it is not altogether so certain as our intuitive knowledge or the deductions of our reason, yet it is an assurance that deserves the name of knowledge.

Against such views the most fundamental skepticism goes further than doubting the veracity of the senses because of the illusions and hallucinations they cause us to suffer. By what arguments Hume asks, can it be proved that the perceptions of the mind must be caused by external objects, and could not arise either from the energy of the mind itself or from the suggestion of some visible or unknown spirit?

It is a question of fact, he adds, whether the perception of the senses be produced by external objects resembling them. How shall this question be determined? By experience, surely, as all other questions of a like nature. But here experience is and must be entirely silent. The mind has never anything present to it but the perceptions, and cannot possibly reach any experience of their connexion with objects. The supposition of such a connexion is therefore without any foundation in reasoning.

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To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Iliad* BK 11 [265-283] 12d the number 4 is the number of the volume in the set; the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of p. 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left-hand side of the page; the letters c and d to the upper and lower halves of the right-hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left-hand side of page 163 and ends in the upper half of the right-hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART, BOOK, etc.) are sometimes indicated in the reference line numbers in brackets as given in certain cases. e.g. *Iliad* BK 11 [265-283] 12d.

**BIBL. REFERENCES.** The references are to book, chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses, the King James version is cited first and the Douay version indicated by a (D) follows. e.g. OLD TESTAMENT *Nehemiah* 7-45—(D) *II Esdras* 7-46.

**SUBJECTS.** The abbreviation *esp.* calls the reader's attention to one or more especially relevant parts of a whole reference. *passim* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information on the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consists of the Preface.

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9 ARISTOTLE *Ethics* K IX CH 9 [117 16-18] 423d 424a

17 PLOTINUS *Enneads* I = 7 3d 4a / *Ennead* d TR V II 189b 190b / *Ennead* d TR I CH 2 3 216b 217b

18 AUGUSTINE *City of God* K VII CH 23 56b 71b 76 / *City of God* K VII CH 23 56b BK VI CH 6 269b K X CH 27 337d 338a

19 AQUINAS *Summa Theologiae* I Q 1 3 52 53b Q 14 A 2 ANS. ad REP 1 76d 77d Q 75 A 3 ANS. d II 380c 381b = 78 A 407b 409 A 3 410a 413d

20 AQUINAS *Summa Theologiae* II Q 50 38b 9a Q 56 5 33c 34b RT SU PL. Q 70 A 2 896a 897d

31 DESCARTES *Rules* 13 XI 18b-25 / *Meditations* V 98d 99 / *Objections* d *Replies* 218 d 229d 230

42 K NT *Peter's Resurrection* 14a c 23a 24 37b 39 98c 101d 102a 112d 113b 115b-c / *Fundamental Principles of Metaphysics* f *Metaphysics* 282b / *Introductory* c f *Modalities* 385a-c / *Judgement* 570c 571c

53 JAMES *Psychology* 158b 159a 450a 451b 469a b 628b 631a

## 18 Sense and intellect are related to becoming and being part of the same universe

7 PLATO = *Phaedrus* 126b d / *Symposium* m 167a d / *Phaedo* 224a 225a 231b 232b / *Republic* K V 383d 398c / *Tmaeus* 447b d 457b 458 / *Theaetetus* 534d 536a / *Sophist* 565 569a esp. 568a 569

8 ARISTOTLE *Posterior Analytics* = CH [7<sup>b</sup> 33 7<sup>a</sup> 6] 98b-c CH 3 111b CH 3 120a c K II 9 [16<sup>b</sup> 1] 136d / *Topica* K CH 7 [3<sup>a</sup> 23 32] 158d BK VI CH 4 [41<sup>a</sup> 4] 194d 195 K III CH I [56 40]

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9 ARISTOTLE *Ethics* K V II 8 [42 I -31] 391b K V c 3 [47<sup>a</sup> 25 6] 397 d

11 NEOPLATONIC *Arithmetica* K I 811c d



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17 PLOTINUS *Fourth Ennead* TR VI CH I 189b-190b / *Fifth Ennead* TR V CH I 228b 229c TR IV C I 5 248a 249a / *Sixth Ennead* TR I CH 27 28 266c 267c

18 AUGUSTINE *Confessions* BK VII par 23 50b

19 AQUINAS *Summa Theologica* PART I Q 14 A 11 84c 85c Q 18 A 2 ANS 105c 106b A 3 ANS 106b 107c Q 54 A 5 288a d Q 57 A 1 REP 2 295a d A 2 295d 297a Q 75 A 5 ANS 382a 383b Q 76 A 2 REP 4 388c 391a Q 86 A 1 ANS and REP 4 461c-462a A 3 463b d PART I 11 Q 1 A 2 REP 3 610b 611b Q 2 A 6 ANS 619d 620d Q 29 A 6 ANS and REP 1 3 748b 749a

20 HARVEY *On Animal Generation* 332a 333b

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42 KANT *Pure Reason* 23a-41c esp 23a 24a 34a c 38c-41c 42a 45d-46a 47c-48a 53b 54b 58a 64a esp 61a 64a 66a d 98c 109d 110a 112d 113b 115b c 199b c / *Fundamental Metaphysics of Morals* 282b c / *Practical Reason* 307d 308b 329b c / *Judgement* 461a 475d esp 461a-462d 464c-467a 474b-475d 482d-483d 492c d 570b 572c

45 JAMES *Psychology* 629a 631a

- 1d *Sense perception as a primary function of the mind or understanding sensations as received impressions the distinction between sensation and reflection ideas and notions percepts and concepts*

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7 PLATO *Timaeus* 469d-470a

8 ARISTOTLE *Soul* BK I CH 5 [410<sup>b</sup>16-411<sup>b</sup>] 640d 641a BK II CH 2 [413 31<sup>b</sup> 4] 643c CH 3 [414<sup>a</sup>28 33] 644c [414<sup>b</sup>32 415 3] 645a b CH 12 [424 32<sup>a</sup>4] 656b c / *Sense and the Sensitive* CH I [430<sup>b</sup>8 12] 673c / *Sleep* CH I [454 12 18] 696c d [454<sup>a</sup>23 455 2] 697b-c / *Youth Life and Breathing* CH I [467<sup>a</sup>23 25] 714b

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10 GLEN *Natural Faculties* BK I CH I 167a b

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49 DARWIN *Origin of Species* 114b-115c esp 115a L

53 JAMES *Psychology* 8a

54 FREUD *Conscious* 429c d

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- 8 ARI TOTLE *Soul* BK II CH 1 [413<sup>b</sup> 10] 643c [414 3] 644 BK II CH II [433<sup>b</sup> 31 434 4] 666d CH 12 13 667a 668d / *Sense and the Sensible* CH I [436<sup>b</sup> 12 437<sup>b</sup> 17] 673c 674a
- 9 ARI TOTLE *Hist y of Animals* K I CH 3 [489<sup>a</sup> 17 19] 10b CH 9 [491<sup>b</sup> 26-34] 13c CH 11 [49<sup>a</sup> 7 30] 14a b BK II CH 12 [504 19 23] 26 113 [5 3 -34] 27d 28a BK IV CH 7 [532 5-7] 58d CH 8 59d 62a BK I CH 16 [548<sup>b</sup> 10-15] 75b c BK VIII CH I [588<sup>b</sup> 17 31] 115 b / *Parts of A mal* BK XII CH 8 [653<sup>b</sup> 2 29] 179b CH 10- 7 181d 188a c passim BK I CH 4 [667<sup>a</sup> 9-14] 195b BK IV CH 5 [69<sup>b</sup> 14 17] 212b H II [690<sup>b</sup> 17 691<sup>a</sup> 28] 222d 223c / *Generat of An mal* CH 4 [705<sup>a</sup> 9- 3] 244b / *Generat of Anm ls* BK I CH 21 [731<sup>a</sup> 4 78] 271c d BK V CH I [778<sup>b</sup> 20]-CH 2 [781<sup>b</sup> 29] 321a 324a
- 12 LU A TIUS *Nature of Thing* BK IV [633-721] 52c 53d
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- 49 DARWIN *Descent of Man* 261c 262a 366c 397d 398a 402b-c 406 432 434c passim 447b-448a passim 456b d 474a b 480a-482b passim 529a b 553d 554b 568d 569b 595b 596a
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- 25 MONTAGNE *Ess y* 286a 287b 290c 291b
- 30 BA N N *Lum Org n m* BK II AP I 40 173c-d
- 31 DESCARTES *Objectio s a d Replies* 156a d 229d 230c
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- 38 MONTESQUIEU *Spirit of Laws* BK I 1d 2a
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- 42 KANT *Judgement* 479b
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- 48 M LVILLE *Moby Dick* 244 245b
- 49 D RURY *Descent of Man* 259d 260a 261c 262a 301c 302b 366c 568d 570a
- 53 J M *Psychology* 19b-42b passim esp 41a b

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- 7 PLATO *Timaeus* 454b-455a
- 8 ARISTOTLE *Soul* BK I CH I [412<sup>b</sup> 18-24] 642d CH 8 [420<sup>a</sup> 9] 651b c CH 9 [421 19-26] 652d [4 1<sup>b</sup> 42 6] 653 c CH 10 [422<sup>b</sup> 1 9] 654a CH II [422<sup>b</sup> 17 424 9] 654b 655d BK II CH II [424<sup>a</sup> 24]-BK I I CH I [4 5 13] 656 657a K III CH 2 [426<sup>b</sup> 17] 658d CH 13 [435 11 63] 668a B / *Sense and the Sensible* CH 2 5 674 683b passim / *Youth Life and C eating* H 3 [468<sup>b</sup> 28]-CH 4 [469<sup>b</sup> 6] 715b 716a
- 9 A I TOTLE *H story of Animals* BK I CH 4 [489<sup>a</sup> 24 27] 10c CH 15 [494<sup>b</sup> 1 16] 16d BK I CH 10 25b c CH 12 [504 19-23] III CH 13 [5 3 34] 27d 28a BK IV H I [5 4 33 5] 50a CH 7 [532 5 10] 58d 59a CH 8 59d 62a / *Part of Animals* BK II CH I [647 1 34] 171a CH 8 [653<sup>b</sup> 19- 9] 179b CH 10-17 181d 188a c esp CH 10 [656<sup>a</sup> 14]-CH 12 [657<sup>a</sup> 4] 182b 183d CH 16- 7 185d 188a c BK III CH 4 [666<sup>b</sup> 11] 193d 194b CH 5 [667<sup>b</sup> 32] 196 BK IV CH 5 [678<sup>b</sup> 18] 208b c [681<sup>b</sup> 5-682 9] 212b d CH II [690<sup>b</sup> 8-69 28] 222d 223c / *M tion of Anmal* CH 9 17<sup>b</sup> 5] 238b / *Gener ion f Animals* BK I CH 6 [743<sup>b</sup> 25-744 8] 285a b K V CH II [779<sup>a</sup> 27]-CH - [781<sup>b</sup> 9] 321c 324a
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- 17 P OTINU *F uth E n ad TR II* CH 3 153d 154b
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- 23 HOBBS *Leviathan* PA T I 49a d 50b 51b PART I I 172c RT IV 258b c
- 28 HAR Y *Circulation f the Blood* 326b / *On An m l Generat n* 455 456b 458a esp 457a d 494b
- 30 BACON *Noctum Org num* BK A H 7 157b d
- 31 D S A ES *Rules x* 19 20d / *Objecti ns a d Repl s* 209c

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- 34 NEWTON *Optics* BK I 384b 385b  
 35 LOCKE *Human Understanding* BK II CH III SECT I 128d 129a CH VIII SECT I 135a CH XIX SECT 3 34b-c  
 36 STERNE *Tristram Shandy* 270a 271b  
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 53 JAMES *Psychology* 8a 52b esp 27a 42b 151a b 453a 456b-457 497a 501b esp 500a 501b 533a 538b passim esp 533a 534a 536a 538a II 546b 547b (fn 1) 562b 563a esp 562b 563b (fn 1) 575b 584a 768b 787a  
 54 FREUD *Interpretation of Dreams* 351b 352b 367b II / *Beyond the Pleasure Principle* 647a 648a

### 3b The distinction between the exterior and interior senses

- 8 ARISTOTLE *Posterior Analytics* BK II CH 19 [99<sup>b</sup>36-100<sup>a</sup>3] 136b / *Soul* BK III CH 2 657d 659c CH 3 [428<sup>b</sup>5 16] 660b c I 7 [43<sup>a</sup> 14<sup>b</sup> / 663d 664a / *Sleep* CH 2 [455<sup>a</sup> 3<sup>b</sup>] 697c 698b  
 17 PLOTINUS *Enneads* TR III CH 29 157b d  
 19 AQUINAS *Summa Theologica* PART I Q 78 A 4 ANS and EP I 2 411d-413d Q 81 A 3 REP 3 430c 431d P RT I II Q 35 A 2 REP 773b d  
 23 HOBBS *Leviathan* PART I 50a-c 52b c PART I 258b-c  
 28 HARVEY *On Animal Generation* 457b  
 31 DESCARTES *Rules* XII 19a 20a  
 42 KANT *Pure Reason* 24 b 26b 29d / *Introduction to the Metaphysics* 386d 387 c  
 54 FREUD *Interpretation of Dreams* 367b-c 384c 385b

### 3b(1) Enumeration of the exterior senses their relation and order

- ARISTOTLE *General account of Corruption* BK II CH 2 [3<sup>a</sup> 9-1<sup>a</sup>] 429c / *Soul* BK I CH 7 II 649b-656a BK III CH 2 656b d 659c / *Sense and the Sensible* 673 689a c  
 9 ARISTOTLE *History of Animals* BK IV CH 8 59d 62a / *Parts of Animals* BK I CH 10 [5<sup>a</sup> 24] CH II [5<sup>a</sup> 8] 182c 183c  
 10 HIERONYMUS *Sacred Disease* 159d  
 12 LUCRETIIUS *De Rerum Natura* f. 131 g BK II [431 443] 20c [480-65] 23 d BK II [4<sup>a</sup> 499] 50b d  
 19 AQUINAS *Summa Theologica* PART I Q III A 3 106b 107c II 6 A 5 394c 396 Q 9 A 3 410a-411d Q 91 A 3 REP I 486b-487d P RT I I Q 31 A 6 756d 757c

- 20 AQUINAS *Summa Theologica* PART III SUPPL Q 82 A 4 972d 974c Q 91 A 4 REP I 1022d 1023d  
 28 HARVEY *On Animal Generation* 457b II  
 31 DESCARTES *Rules* XII 19a  
 35 LOCKE *Human Understanding* BK II CH II SECT 3-CH III SECT I 128b 129a CH IX SECT 8-g 139c 140a  
 35 BERKELEY *Human Knowledge* SECT I 413a b SECT 42 44 420-421a  
 53 JAMES *Psychology* 62a 63a 569b 570a 650b 651a

### 3b(2) Enumeration of the interior senses their dependence on the exterior senses

- 8 ARISTOTLE *Posterior Analytics* BK II CH 19 [99<sup>b</sup>36-100<sup>a</sup>6] 136b c / *Metaphysics* BK I CH 2 [980<sup>a</sup>22 24] 499a / *Soul* BK III CH 3 [428<sup>b</sup> 10 429 9] 660d 661b CH II [433<sup>a</sup>31 434<sup>a</sup>9] 666d / *Memory and Reminiscence* CH I 690a 692b  
 9 ARISTOTLE *Motion of Animals* CH 8 [429 20] 237c / *Rhetoric* BK I CH II [1370 13] 11] 613c  
 17 PLOTINUS *Fourth Ennead* TR III CH 29 157b-d TR IV CH 8 161d 162b TR VI 189b 191c  
 18 AUGUSTINE *Confessions* BK X PAR II 15 74b 75b  
 19 AQUINAS *Summa Theologica* PART I Q 78 A 4 411d-413d Q 84 A 7 REP 2 449b-450b Q III A 3 REP I 570b 571b  
 21 DANTE *Divine Comedy* PURGATORY XVII [13 18] 78c  
 23 HOBBS *Leviathan* PART I 50a-c 52b c 54b c PART IV 262a c  
 28 HARVEY *On Animal Generation* 334c d  
 31 DESCARTES *Rules* XII 19a 20d  
 31 SPINOZA *Ethics* PART I PROP 17 18 380d 382b  
 35 LOCKE *Human Understanding* BK I CH II SECT 21 118b 119a BK II CH II SECT 3 128a-c CH X 141b 143d esp SECT 7 142c d CH XI SECT 1-7 143d 145b CH XII SECT I 147b-c  
 35 HUME *Human Understanding* SECT II DIV 13 455d-456b  
 42 KANT *Pure Reason* on 41c-42b 54b-55a  
 53 JAMES *Psychology* 13a 391a 480a  
 54 FREUD *Interpretation of Dreams* 352a-c

### 3c The activity of the exterior senses

#### 3c(1) The functions of the exterior senses the nature and origin of sensations

- 7 PLATO *Meno* 177b d / *Republic* BK VI 385c-386c / *Timaeus* 453b-454a 454c-455a 463d 465d / *Theaetetus* 518b 522b 533b-534b / *Phaedrus* 621a c  
 8 ARISTOTLE *Categories* CH 8 [9<sup>a</sup>25 13] 14b c / *Topics* BK I c 14 [105<sup>a</sup>4-9] 149b BK II CH 5 [125 15 18] 174d / *Generation and Corruption*

- non BK I CH III [324<sup>b</sup>26-32] 423b [326<sup>b</sup>11-21] 425c d / *Metaphysics* BK IX CH 6 [1048<sup>b</sup>18 34] 574a c / *Soul* BK I CH 5 647b 648d  
K III CH 7 [431 r-8] 663c / *Sense and the Sensible* 673a 689a c passim
- 9 ARISTOTLE *Parts of Animals* BK III CH I [647<sup>b</sup>19] 171a b CH II [656<sup>b</sup>26-65 13] 183a b BK I CH II [69<sup>b</sup>26-69 13] 2 2d 223b / *Generation of Animals* BK V CH I [80<sup>b</sup>23] CH 2 [78<sup>b</sup>29] 322d 324a / *Ethics* BK II CH I [11 3<sup>b</sup>26-31] 348d BK X CH 4 [1174<sup>b</sup>1 1 73] 429a b
- 10 HIERONYMUS *Sacra d Dilecti* 159d
- 11 LUCRETIUS *Natura e of Things* BK II [398-477] 20 21 [865-990] 26a 27c BK III [231 237] 33 b [323-4 6] 34b 35c BK IV [26 68] 44b-47d [522-776] 51a 54b
- 12 PLATINUS *Fit Enead* TR I CH 6 7 3c 4a / *Secund Ennead* TR VIII 64 65c / *Fourth Ennead* TR II CH 23 153d 154b CH 25 26 155c TR IV CH 23 25 169c 171b TR V CH I TR VI CH 2 183a 190b
- 13 AQUINAS *Summa Theologiae* PART I Q 14 A 1 ANS 75d 76c A 2 REP I 76d 77d Q 75 A 3 ANS and R P 2 380c 381b Q 77 A 5 REP 3 403d-404 Q 78 A 3 410 411d
- 14 AQUINAS *Summa Theologiae* PART III SUPPL Q 70 AA I 2 893d 897d Q 82 AA 3 4 971a 94
- 15 HOBBS *Leviathan* PART I 49a d 62b PART I 172b PART IV 258b c
- 16 HARVEY *On Animal Generation* 456c 457d passim esp 457 d
- 17 BACON *Natural Organum* BK II APR 45 176a b
- 18 DARTES *Rules* XII 19a / *Objection and Reply* 168b 228 229c 229d 230
- 19 SPINOSA *Ethica* PART II AXIOM 4 373d PR I 16 377b 380d esp pro TULARE 3 380b
- 20 NEWTON *Optics* BK I 428a b 434a 435a 442a-443a BK III 518b 519b 5 2a
- 21 LOCKE *Human Understanding* BK II CH I SECT 3 121 d SECT 23 127b CH II 5 1 128d 129a CH VI 1 2 4 133d SECT 7 26 134b 138b passim esp SECT 11 3 134d 135b SECT 11 136c d CH IX 5 CT I 4 138b d H XIX SECT 1 175b CH XXIII CT I 3 206d 208b CH XXIX SECT 3 234b CH XXXI SECT 2 239b d BK II IV SECT 261b d CT V 1 2 263d 264a K IV H SECT 11 13 311 312b H III 1 28 322a CH IV SECT 4 324c
- 22 BURKE *On Human Knowledge* SECT 8 20 416b-417a T 25 33 417d-419a passim SECT 36 419 d EC 44 421a 3 CT 56-57 423-424a T 90 430 d 5 T 46 149 442a d
- 23 MONTESSQUIEU *Spirit of Laws* K XV 102b d 103b
- 24 KANT *Precursor* 23 24a 115b-c / *Judge ment* 477b d 518
- 25 BACON *De Veritate* 202a
- 26 LAVOISIER *Elements of Chemistry* PART I 14a
- 27 HEGEL *Philosophy of Right* ADDITIONS 25 121a
- 28 MARY *Capital* 31 d
- 29 JAMES *Psychology* 98b 103b 108a b 149b 151b esp 151a b 184b 185a 193b-194 422a 452a-457a esp 456b-457a 470b-471a 472b 479a 520a 521a 547a 627a esp 549a 550a b 553b 554b 562a 563a 584b 589b 593a 595b 597b [fn 2] 596a 608b 611b 613b 616b 856b 858a passim
- 30 FREUD *Instincts* 412c-413a / *Beyond the Pleasure Principle* 647c 648 / *Ego and Id* 701b-d
- 3c(2) The attributes of sensate on intentionality  
extensivity affective tone the psychophysical law
- 8 ARISTOTLE *Topics* BK I CH 15 [1 6<sup>a</sup>22 36] 150a b [1 7<sup>b</sup>27 37] 152a / *Physics* BK VII CH 3 [246<sup>b</sup>20-247 19] 330a b / *Soul* BK II CH 8 [4 27-24] 651 d CH 9 [421 6-16] 6 2c BK III H 2 [426<sup>a</sup>27 28] 658c d CH 13 [435<sup>b</sup>4 19] 668c
- 9 ARISTOTLE *Ethics* BK V CH 4 [1174<sup>b</sup>15 1175 3] 4 9a b
- 10 LUCRETIUS *Natura e of Things* BK II [398 477] 20a 21a [963-97] 27b BK IV [324 33] 48c [124-548] 51a b [6 5-731] 52b 53d
- 11 PLOTINUS *Second Ennead* TR V CH I 65a / *Fifth Ennead* TR VII CH I 245
- 12 AQUINAS *Summa Theologiae* PART II Q 31 AA 5-6 755 757
- 13 HOBBS *Leviathan* PART I 62b c
- 14 LOCKE *Human Understanding* d BK V CH II 5 CT II 1 311c 312b
- 15 BACON *De Veritate* 202a
- 16 BACON *De Veritate* 202a
- 17 HUMERUS *Human Understanding* 455b-d
- 18 MONTESQUIEU *Spirit of Laws* BK V 103a c
- 19 KANT *Precursor* 69c 72c / *Introductory Philosophy of Metaphysics* 385a b / *Judgement* 477b-478a
- 20 MILL *Utilitarianism* 450a
- 21 DARWIN *Descent of Man* 569a b
- 22 JAMES *Psychology* 275b 276b 319b 321a 348a 359 498 501b passim 526b 527a 533 b 540a 547 552a 554b 563 566 651a b 829b-830a
- 23 FRAUD *Interpretation of Dreams* 367b c 384 d / *Naturalism* 403d 404 / *Beyond the Pleasure Principle* 639b d 648b 649 passim / *Ego and Id* 701a b / *Civilization and Its Discontents* 773a
- 3c(3) The classification of consciousness  
qualitative proper and common as biological primary and secondary qualities
- 7 PLATO *Timaeus* 462 463d 464b 465d
- 8 ARISTOTLE *Categories* CH 8 [9 8 28] 14b c / *Generation and Corruption* BK I CH 13

3c The activity of the exterior senses. 3c(3) *The classification of objects of sense-qualities, proper and common sensibles; primary and secondary qualities*

428b d 431a / *Soul* bk ii ch 6 [418<sup>6</sup>-19]  
648d-649a ch 9 [421<sup>2</sup>, 3] 652d ch 10  
[422<sup>10</sup>]-ch 11 [423<sup>3</sup>] 654b-c bk iii ch 1  
[451<sup>4</sup> 29] 657b-c [454<sup>4</sup> 10] 657c d /  
*Sense and the Sensible* ch 1 [437<sup>3</sup> 10] 673d  
674a ch 3-5 676a 683b ch 6 [445<sup>4</sup>-446<sup>10</sup>]  
683b 684c

10 GALILEO *Natural Philosophy* bk i ch 6 169c d

12 LACRETIVS *Nature of Things* bk ii [395-] i  
20a 21c [30-86] 24b-26a

19 AQUINAS *Summa Theologiae* q 8 a  
3 esp REP 2 410a-411d a 3 REP 1 2 411d-413d

20 AQUINAS *Summa Theologiae* c 3 PART III SUPPL.  
q 92 a 2 ans 1032b-1034b

23 HOBBES *Leviathan* PART I 49b-d PART III  
172b

31 DESCARTES *Rules* xii 19a-c / *Objection and Reply* 163b 228c 229c 231a b

34 NEWTON *Principles* bk iii ALL III 2 0b-  
271a / *Optics* bk i 428a b

35 LOCKE *Human Understanding* bk ii ch 1  
SECT 1 128d 129 c 1 331b ch vii SECT 1  
131c ch viii SECT 6 134b 138b c ix  
SECT 8-9 139c 140a ch xxi SECT 3 178d  
SECT 5 200b-d ch xxiii SECT 7 13 205d  
208b SECT 3 214a ch xxv SECT 2  
238b-c ch xxi SECT 2 239b-d bk iii ch  
ii SECT 16 253b-c bk iv ch iii SECT 11 14  
315d 316d SECT 28 322a-c

35 BERKELEY *Human Knowledge* SECT 9-13  
414d-416a SECT 25 417d-418a SECT 3  
427b-c SECT 1 2 432d-433a

35 HUME *Human Understanding* SECT x DIV  
1 2 505c d

4. HANT *Pure Reason* 15b-c 29d 33d esp 30d  
31a 31d 32a 32d 33b [in i]

11 JAMES *Psychology* 185a b 502b 503b 569b-  
570a 572a b 627a b 650b-651a

3c(4) The distinct on between sensation and perception on the accidental sensible complex ideas of subjects are

8 ARISTOTLE *Metaphysics* bk x ch 10 [18<sup>4</sup>-  
18 21] 619c / *Soul* bk ch 6 [418<sup>6</sup>-20 26]  
649a / *Sense and the Sensible* ch [437<sup>3</sup> 1]  
673d 674a c 6 [446<sup>10</sup> 27] 685a b

20 AQUINAS *Summa Theologiae* RY III S PTL.  
q 92 2 a 1032b-1034b

35 LOCKE *Human Understanding* bk ii ch ix  
SECT 8 10 139b-140b ch xx 1 SE 7 1  
204a b

35 BERKELEY *Human Knowledge* SECT 1  
413a b SECT 42 44 420c-421a SECT 148  
442b d

42 HANT *Pure Reason* 113b-c

53 JAMES *Psychology* 452a-453a 502 505b  
526b-527a

3c(5) Sensation and attention, pre-perception and apperception the transcendental unity of apperception

8 ARISTOTLE *Sense and the Sensible* ch 7  
685c-689a c

21 DANTE *Divine Comedy* PURGATORY iv [1  
18] 57c

4. HANT *Pure Reason* 14a 108a b ch 14a 15c  
23a-33d, 41c-42b 48d 59b 66d 93c

48 MELVILLE *Moby Dick* 244a 245a

51 TOLSTOY *War and Peace* bk xii 603c-d

11 JAMES *Psychology* 184b-185a 237b-238a  
262a 291a esp 262b-268a 275b-276b 282a  
288a 295b-297a 328a-329a 469a b 522b  
525a 562a b 620b-621a

3d The activity of the interior senses

3d(1) The functions of the common sense: discrimination comparison association, collation or perception

8 ARISTOTLE *Soul* bk iii ch 1 [425<sup>14</sup> 13]  
657b-d ch 2 [463<sup>4</sup> 42<sup>14</sup>] 658d-659c /  
*Sleep* ch - [455<sup>3</sup> 13] 697c-698b

10 HIPPOCRATES *Sacred Disease* 159c-d

16 KEPLER *Epitome* bk ii 855a

17 PLOTINUS *Fourth Ennead* TR III ch 3 143b-c  
TR VII ch 6-7 194b-195b

19 AQUINAS *Summa Theologiae* RY I Q 5 a  
4 ans and REP 1 411d-413d Q 8 a 3 REP  
407d-468a

23 HOBBS *Leviathan* PART I 52 b

28 HARTLEY *Of Animal Generation* 457b-458a  
esp 457b-c

31 DESCARTES *Rules* xii 19c d

35 LOCKE *Human Understanding* bk ii ch ii  
SECT 1 143d 145b

42 HANT *Pure Reason* 14a 51c d 54b-64a /  
*Judgement* 493c d 528c 529b

53 JAMES *Psychology* 185a b 313b-314a esp  
313b 319a 322b 326a 336a-340a 344b-346a  
360a 399b esp 378a 380a 396a-39 399 b  
411a-420b esp 414a-416b [in i] 415a-418a  
502b 504b 506a 507a 525a 526b 54 a  
552a esp 547a b 551b 552a 561a 575a esp  
561a 570a 573a 584a 589b esp 584 b & a  
868b

54 FREUD *Interpretation of Dreams* 367b-c  
384c 385c

3d(2) Memory and imagination: the retention of powers of sense

7 PLATO *Theaetetus* 523d 524a / *Phaedrus*  
621a b

8 ARISTOTLE *Posterior Analytics* bk ii ch 19  
[90 20-100g] 136a-c / *Metaphysics* bk i ch 1  
[93c-23<sup>2</sup>-24] 499a / *Memory and Reminiscence*  
690a 695d

9 ARISTOTLE *Metaphysics* ch 7 [911<sup>13</sup>]  
ch 8 [912<sup>21</sup>] 237a-c / *Rhetoric* bk i ch ii  
[370<sup>28</sup> 31] 613c

- 17 PLOTINUS *Furth Ennead* TR III CH 28 32  
156d 159a TR VI 189b 191c
- 18 AUGUSTINE *Confessions* BK X PAR 12 17  
74b 75d
- 19 AQUINAS *Summa Theologiae* PART I Q 55 A  
2 REP 2 289d 290d Q 78 A 1 ANS and R 3  
411d-413d
- 20 AQUINAS *Summa Theologiae* PART I Q 50  
A 3 REP 3 8b 9a
- 23 HOBBS *Leviathan* PART I 50a 52b esp  
50 d PART IV 258b c 262a-c
- 30 H CON *Advancement of Learning* 55b-c
- 31 DESCARTES *Rules* XII 19d 20b-d / *Objections and Replies* 208d 209a 218c 219b-c
- 31 SINCE *Ethics* PART II PROP 17 18 380d  
382b ART III POSTULATE 2 396a
- 35 LOCKE *Human Understanding* BK II CH X  
S CT 1 214b-c SECT 7 142c d
- 38 ROUSSEAU *Inequality* 341d 342a
- 42 KANT *Pure Reason* 41c-42b 54b-64a /  
*Judgement* 493c d
- 45 HEZEL *Philosophy of History* PART I 219d  
220a
- 53 JARVIS *Psychology* 13a 15a c p 13a 145a  
421b-431b pass m esp 424b-425a 480a 501b  
esp 480a b 497a 501b
- 54 FUD *Interpretation of Dreams* 352a d
- d(3) The estimative or cognitive power is  
the cognitive recognition of the harmful and  
beneficial
- 6 HEROTY *History* BK II 63b-c
- 9 ARISTOTLE *History of Animals* XVII 1 CH 12  
[596<sup>b</sup> 0-28] 122d BK IX CH 5-6 136d 138b  
passim
- 17 PLOTINUS *Furth Ennead* TR IV CH 20  
167d 168b
- 18 AQUINAS *Summa Theologiae* PART I Q 59  
A 3 AN 308b 309a Q 76 A 5 RE 4 394  
396a Q 78 A 4 ANS and RE 4-5 411d-413d  
Q 81 A 2 RE 2 429c-430c A 3 ANS and RE 2  
430-431d Q 83 A 1 ANS 436d-438a R 96  
A 1 ANS and R 94 510b-511b PART II Q 29  
A 6 ANS 748b 749
- 22 CHAUCER *News of Priests Tale* [5, 279 87]  
457b
- 22 MONTAGNE *Essays* 286d 287b
- 28 HERVET *On Animals in General* n 456d 457
- 31 DESARTES *Meditations* VI 100a d
- 35 LOCKE *Human Understanding* BK II CH II  
SECT 3 104b d BK II CH X SECT 3 141c d  
CH X S T 5 144d 145 R III 145d 146a
- 38 ROUSSEAU *Inequality* 337d 338a
- 48 MELVILLE *Moby Dick* 144a
- 49 DARWIN *Origin of Species* 121 122c /  
*Descent of Man* 287d 288a 290c 291a  
292b c
- 53 JARVIS *Psychology* 13 708a 709a 720b-  
725a pass m 729b
- 54 FUD *General Introduction* n 607d 609 esp  
607d 608c 612 614a esp 613d 614 623b-c
- / *Beyond the Pleasure Principle* 640d 641a /  
/ *Inhibitions Symptoms and Anxieties* 720a  
721c esp 720c d 737b d 751a 752b / *New  
Introductory Lectures* 845a 846a
- 3c The relation of sense to emotion will and  
movement the conception of a sensitive  
appetite
- 7 PLATO *Phaedrus* 128a 129c / *Republic* BK IV  
350b 353d esp 352c d BK X 421a b /  
*Timaeus* 466a 467b / *Laws* BK VI 712b
- 8 ARISTOTLE *Physics* BK VII CH 3 [246<sup>b</sup> 20-  
247 19] 330a b / *Soul* BK II CH 2 [413<sup>b</sup> 17 24]  
643d CH 3 [314<sup>a</sup> 28-316] 644c d / *De anima* CH  
2 [46 34 27] 704b d
- 9 ARISTOTLE *Motion of Animals* CH 6 [700<sup>b</sup> 4]-  
CH 8 [702 22] 235d 237 / *Ethics* BK I CH 10  
[1118 1 27] 364c 365a BK VI CH 2 [1139 16-  
21] 387d BK VII CH 3 [1147 25 26] 397c d  
CH 4 [1148 4 22] 398b c CH 6 [1149 23 23]  
399d-400a
- 10 LUCRATIUS *Nature of Things* BK IV [877 89]  
55d
- 12 EPICTETUS *Discourses* BK II CH 23 170a 171a
- 17 PLOTINUS *Furth Ennead* TR I CH 28  
156d 157b TR IV CH 20 167d 168b
- 18 AUGUSTINE *Confessions* BK II P 1-2 9a b  
P 1 11a b BK III PAR 1 13b c
- 19 AQUINAS *Summa Theologiae* PART I Q 6 A  
1 RE 2 28b-d Q 18 A 3 ANS 106b 107c R  
78 A 1 407b-409a Q 81 428d-431d Q 82 A 2  
REP 3 432d 433c PART I Q A 2 REP 3  
610b 611b Q 2 A 6 RE 2 619d 620d Q 7  
A 7 690d 692a QQ 22 48 720b d 826a c p s  
sum sp Q 22 A 3 722d 723b
- 20 AQUINAS *Summa Theologiae* PART II Q 56  
AA 4-5 32b 34b
- 21 DANTE *Divine Comedy* PURGATORY XVI  
[85-] 177d
- 23 HOBBS *Leviathan* PART I 61a d 62b  
64a c
- 25 MONTAGNE *Essays* 288a 290b
- 27 SHAKESPEARE *Hamlet* ACT III S IV [65-82]  
55b
- 30 H CON *Advancement of Learning* 55b c
- 31 SPINOZA *Ethics* ART PRO 9 399b-c
- 42 KANT *Pure Reason* 164b c 235c d / *Fundamental Metaphysics of Moral* 259a 265b d  
[In 1] 270c d 284d 285a / *Practical Reason* n  
298d 300 341c 342a / *Introductory Metaphysics of  
Moral* 385c 386d / *Judgement* 477b  
586a b
- 53 JARVIS *Psychology* 13a 15a 51a B 521 522a  
694 699a 738a 759a esp 743a 745b 754b  
755b 757b 759a 767b 794a esp 768a 771a  
790 794 808b 810b 812a 813a 827b 835a  
esp 827b 828a 830b 831b
- 54 FUD *Introduction of Descent of Man* 351 353b  
esp 351d 352a 363 364b / *Descent of Man* 412  
413d 419-420c esp 420 / *Beyond the  
Pleasure Principle* 648b / *Essay of Idleness* 701b

## 4 The character of sensitive knowledge

- 7 PLATO *Phaedo* 224a 225a 231c 232a / *Republic* bk vi vii 383d 398c / *Theaetetus* 517b 536a
- 8 ARISTOTLE *Posterior Analytics* bk i ch 3i 120a c / *Metaphysics* bk i ch i [980<sup>b</sup> 20<sup>b</sup> 4] 499a [981<sup>b</sup> 10-11] 499d 500a bk iv ch 5 [1009<sup>b</sup> 17] 528d 529a [1010<sup>b</sup> 1-1011 2] 530a c bk xi ch 6 [1062<sup>b</sup> 34 1063 9] 591a b
- 17 PLOTINUS *First Ennead* tr i ch 3 7 1d 4a / *Fourth Ennead* tr iii ch 26 155c tr iv ch 20 167d 168b ch 23 25 169c 171b tr v 183a 189b
- 18 AUGUSTINE *Confessions* bk x par 10 11 73d 74b bk xii par 5 100a b / *Christ a Doctrine* bk ii ch 27 650a
- 19 AQUINAS *Summa Theologica* part i q 1 a 4 ans and rep 3 53b 54c q 14 a 6 re 1 80a 81c q 78 a 3 ans 410a 411d a 4 ans and rep 4-6 411d 413d
- 28 HARVEY *On Animal Generation* 332a 333c
- 31 DESCARTES *Rules* xii 19a 20a / *Meditations* vi 96b 103d / *Objectons and Replies* 136d 137a 163b 229d 230d
- 31 SPINOZA *Ethics* part ii prop ii 16 377b 380d
- 35 LOCKE *Human Understanding* bk ii ch xx ii sect 29 211d 212a xiv ch ii sect 14 312b d ch ii sect 2-5 313a c sect 21 319c ch xi 354c 358c
- 35 BERKELEY *Human Knowledge* sect 18 416b sect 13 145 440 442a passim
- 42 H. NT *Pure Reason* 23a 24a 30b 31a esp 30b c 34a b 54b 55a 58a 59b
- 53 JAMES *Psychology* 157b 168a esp 158b 161a 167b 453a-479a esp 453 454 456b 459b 469a b

## 4a Comparison of sensitive with other forms of knowledge

- 7 PLATO *Symposium* 167 d / *Phaedo* 224 225a 231c 232a / *Republic* bk vi vii 383d 398c / *Timaeus* 447b d / *Theaetetus* 536a
- 8 ARISTOTLE *Prior Analytics* bk i c 1 120a c / *Topica* bk ii ch 8 [114 17 26] 159d 160 / *Metaphysics* bk i ch i [980<sup>b</sup> 20<sup>b</sup> 4] 499a / *Sul* bk ii c 15 647b 648d
- 9 A. TOTTLE *General Notion of Mathematics* bk i ch 23 [731 3<sup>b</sup>] 271c d / *Ethics* bk i c 1 4 [100 30<sup>b</sup> 12] 340c d bk vi ch 8 [1142 12 31] 391b c
- 17 I. LOTTI *First Ennead* tr v ci 1 228b 230 / *Seventh Ennead* tr iii ci 8 291 b
- 18 ALBERT *Confessions* bk i par 10 15b d bk xii par 5 100a b
- 19 A. QUIN *Summa Theologica* part i q 1 a 4 ans and rep 3 53b 54c m 3 7 av 68d 70d q 14 6 a p 1 80a 81 q 54 2 v 285d 286c q 57 a 1 2 295 d 2

- 295d 297a q 78 a 4 ans and rep 4-6 411d 413d q 85 a rep 3 453d 455b
- 23 HOBBS *Leviathan* part i 49d
- 28 HARVEY *On Animal Generation* 332a 333c
- 31 DESCARTES *Discours* part iv 53b / *Meditations* iii 83d 84a vi 96b 103d / *Objectons and Replies* 136d 137a 218c d 229d 230d
- 35 LOCKE *Human Understanding* bk iii c 1 sect 5 252b c bk iv ch ii sect 14 312b d ch iii sect 2-5 313a c sect 21 319c ch iii sect 13 357d 358a
- 35 BERKELEY *Human Knowledge* intro sect 1 405a b sect 18 416b c sect 7 418a b sect 135 142 440a 441c
- 35 HUME *Human Understanding* sect v div 41 468a b
- 42 H. NT *Pure Reason* 14a c 22a c 23a 24a 34a c 45d 46a 199a c / *Judgement* 528c d 542b 543c 570b 572b esp 571c 572a
- 53 JAMES *Psychology* 144a 145a 167b 311b 312b [in i] 450a 451b 453a 459b esp 453a b 456a

## 4b The object of sense perception the evidence of particular fact judgments of perception and judgments of experience

- 7 PLATO *Phaedo* 224a 225a 231c 232a / *Republic* bk vi 383d 388a / *Timaeus* 447b c 457d / *Theaetetus* 517b 536a / *Sophist* 568b
- 8 ARISTOTLE *Posterior Analytics* bk ii c 19 [99<sup>b</sup> 20- 00<sup>b</sup> 5] 136a d / *Tippic* bk ii ch 8 [114 18 26] 159d 160a / *Physics* bk i ch 5 [188<sup>b</sup> 26-189 9] 264b c / *Metaphysics* bk iii ch 7 [3 6 18] 397b c / *Metaphysics* bk i c 1 [981<sup>b</sup> 10 13] 499d 500a bk iv ch 5 [1009<sup>b</sup> 17] 528d 529a [101 2 1011 2] 530a c bk xi ch 7 [1064 1-9] 592b / *Soul* bk ii c 15 [117<sup>b</sup> 18 28] 648b c bk iii c 11 [431 16-22] 667a
- 9 ARISTOTLE *Ethics* bk i ch 7 [109<sup>b</sup> 34 38] 343d 344a bk vi ch 8 [1142 23 31] 391b c
- 17 PLOTINUS *First Ennead* tr i ch 7 3d 4a / *Fourth Ennead* tr vi ch i 2 189b 190b
- 18 AUGUSTINE *Confessions* bk iii par 10 15b d bk iv par 15 17 23 d
- 19 AQUINAS *Summa Theologica* part i q 12 a 4 an md re 3 53b 54c q 14 a 1 an rep 1 281c 85c a 12 av 85d 86d q 17 a 2 102a d q 18 a 2 an 105c 106b m 57 1 rep 2 295a d a 2 av 295d 297a q 59 1 rep 1 306c 307b q 5 a 5 a 3 382a 383b q 76 a 2 re 4388c 391 q 77 a 5 rep 3 403d 404c q 79 a 6 a 5 419b 420d q 85 a 1 a 5 451c 453c a 6 av 458d 459c
- 20 A. QUIN *Summa Theologica* part i q 1 a 4 an re 3 8b q 5 a 3 re 3 8b q
- 23 HOBBS *Leviathan* part i 49a d part ii 172b
- 28 HARVEY *On Animal Generation* 332a 333c
- 31 DESCARTES *Discours* part iv 53b / *Meditations* iii 80c 81d vi 96b 103d part ii / *Objectons and Replies* 229d 230d

- 31 SINOZA *Eth cs* PART II PROP II 16 377b 380d
- 35 LOCKE *Human Understanding* BK II CH IX s CT 8 10 139b 140b BK IV CH II SECT 14 312b d CH III SECT 2 313 SECT 5 313c SECT 14 316b d SECT 21 319c CH XI 354c 358c esp SECT 13 357d 358a
- BERKELEY *Human Knowledge* SECT 18 416b c
- 42 KANT *Pure Reason* 16d 17d 108a d 115b c
- 43 MILL *Utilitarianism* 445d-446a
- 53 JAMES *Psychology* 150b-151b 184b 185b 363b 364a 453a-457a 472b 479 502a 504 506a 507a 564a b 569b 570a 606b 610b esp 608b 609a 867a 868b esp 868 b
- 54 FRAUD *Unconscious* 430c / *Eg d Id* 702d 703a
- 4c The relation of sense and the sensible the subjectivity or objectivity of sense qualities
- 7 PLATO *Thaetetus* 517b 520b
- 8 ARISTOTLE *Categories* CH 7 [7<sup>b</sup>35-8 12] 12d 13a / *Physics* BK II CH 2 [244<sup>a</sup> 245 2] 328b-d CH 3 329a 330d / *Metaphysics* BK IV CH 5 [10<sup>b</sup>30-1011<sup>a</sup>] 530 / *Soul* BK II CH 5 647b 648d CH I [4<sup>a</sup>327-CH 12 [424<sup>a</sup>4] 655 656a BK I CH 2 657d 659 CH 4 [49<sup>a</sup>10-29] 661b CH 8 664b d / *Sense and the Sensible* 673a 689a c / *Dreams* CH 2 [459 3 46 32] 703 704b
- 9 ARISTOTLE *Prior Analytics* BK II CH 2 [648<sup>b</sup>15 18] 173a / *Ethics* BK X H 4 [1174<sup>b</sup> 5-1 75 3] 429a b
- 10 GALEN *Natural Faculties* A I CH 2 167d
- 12 LUCIUS *Natural Theology* Th gs BK [730-864] 24b 26 [o] 27d 28a
- 19 AQUINAS *Summa Theologiae* ART I Q 14 A 2 AN 76d 77d
- 20 AQUINAS *Summa Theologiae* PART III SUPPL Q 8 A 3 ANS 971a 972d
- 23 HUBER *Lectiones* ART I 49a d 57b 59d PART III 172b
- 25 MONTAIGNE *Essays* 285b 292d passim
- 31 DESCARTES *Rule x* 10 / *Method* s VI 100 / *Objections* a d *Replies* 162d 165a 228c 229 231a b
- 34 NEWTON *Optics* BK I 428a b
- 35 LOCKE *Human Understanding* BK II CH IX 133b 138b passim CH IX CT 3 178d s CT 75 200b d CH XX CT 7 3 205d 208b CT 37 214a b CH XX CT 238b c CH XXI s T 239b d CH XXXII s CT 14 6 245 246b CH IV CT 1 14311 312d CH I s CT 6 314b SECT II 14 315d 316d CT 28 322a c IV CT 4 324 CH V T 4-g 355b 357a
- 35 HUME *Human Understanding* g SECT VII DIV 117-123 504a 506a
- 42 KANT *Pure Reason* 23a 24 29d 33d esp 30d 31a 31d 32a 32d 33b [fn 1] 88b 89c 101b 102a 115b c / *Intro Metaphysic of Morals* 385a c
- 50 MARX *Capital* 31c d
- 53 JAMES *Psychology* 98b 105a 127b 128a 150a 151a 176b 177a 459a-479a esp 459a b 471b 473a 479a 851b 852a 860a b
- 4d The limit accuracy and reliability of sensitive knowledge the fallibility of the senses
- 7 PLATO *Phaedo* 224a 225a 231 232a / *Republic* BK VI-VII 386d 398 / *Theaetetus* 534d 535c / *Statesman* 594d 595c
- 8 A I TOTLE *Posterior Analytics* BK I CH 31 120a / *Topica* BK V CH 3 [13 9-36] 182b c / *Generation and Corruption* BK I CH 3 [318<sup>b</sup> 19 4] 415 / *Metaphysics* BK IV CH 5 [1010<sup>b</sup> 15 29] 530b c / *Soul* BK II CH 6 [418 6-18] 648d 649 CH III CH 3 [427<sup>b</sup>6-14] 659d 660a / *Sense and the Sensible* CH 4 [442<sup>b</sup>4-9] 680a b
- 9 ARISTOTLE *Generalization of Animals* BK I CH 23 [73 30-35] 271 d
- 12 LUCIUS *Nature of Things* K I [693 7] 9c BK IV [324-521] 48 51a esp [469-5 1] 50b b
- 17 PLOTINUS *Second Ennead* TR VIII 64 65c / *Fifth Ennead* TR V CH I 228b-229
- 18 AUGUSTINE *City of God* BK XIV CH 18 523a b
- 19 AQUINAS *Summa Theologiae* PART I Q 17 A 102a d Q 85 A 6 AN 458d 459c
- 21 DANTE *Divine Comedy* PARADISE II [46-57] 108b
- 25 MONTAIGNE *Essays* 285c 292d
- 28 HARVEY *Circulation of the Blood* 320b 322d 323d 324c d / *On Animal Generation* 332a 333
- 30 BACON *Advancement of Learning* 51c d 57d 58b / *New Organum* BK I APH I 107d APH 4 17 107d 108 A H 41 109 d APH 50 111b BK II APH 51 139b c APH 39 40 169d 173d A 44 175d
- 31 D S ARTES *Res* VIII 13a b XII 18c 22c 23 / *De Causis* PART IV 53b / *Medulla* s I 75a 77 83d 84 VI 96b 103d p 103 d / *Objections* a d *Replies* POSTULATE I 130d 206 207a 229d 230d
- 31 SINOZA *Ethics* PART II PROP 16 CO OL 2 380d P O 4 28 383 384c P O 20 OROL 384d 385a P O 40 s HOL 2 PRO 41 388 c
- 32 MILLTON *Poems* ad *se* Lost BK V [544-576] 187a b BK VIII [14 130] 234b 235a
- 33 LOCKE *Pensées* 9 173b 83 188b 189
- 35 LOCKE *Human Understanding* BK I CH I T II-3 206d 208b BK I CH I T 2 238b CH XXX T 239b d c XX T 4 6 245c 246b BK I CH I SECT 14 312b-d CH V T 4 324c CH X s CT 3-9 355 357



(4) *The character of sense and knowledge 4d The limits of accuracy and reliability of sensitive knowledge the fallibility of the senses*

- 35 BERKELEY *Human Knowledge* INTRO SECT I 405a b SECT I 4 15 415c-416a SECT 27 418a b SECT 40 420b SECT 86-88 429c 430b SECT 101 432c d SECT 135 142 440a 441c passim
- 35 HUME *Human Understanding* SECT IV DIV 29 461a d SECT VII DIV 117 123 504a 506a
- 42 KANT *Pure Reason* 27b 33d esp 29d 30c 108a desp 108d [fn 1] / *Practical Reason* 337a b / *Judgement* 603b-d
- 49 DARWIN *Origin of Species* 96c
- 53 JAMES *Psychology* 125a 126a 400a 405a 460a 471a esp 469a b 500a 544a 545b 589b 625a esp 589b 590a 593a 595a 606b 610b 625a
- 54 FREUD *Interpretation of Dreams* 383b-c

4d(1) *The erroneous interpretation of sense data the problem of judgments based on sensation*

- 7 PLATO *Republic* BK X 431c d / *Theaetetus* 338d 541a
- 8 ARISTOTLE *Generation and Corruption* BK I CH 3 [318<sup>b</sup>19-31] 415c d / *Metaphysics* BK IV CH 5 [1009<sup>b</sup>17] 528d 529a BK XI CH 6 [1062<sup>b</sup>34 1063 g] 591a b / *Soul* BK II CH 6 [418 14 18] 648d 649a BK III CH 1 [425 30-3] 657c CH 3 [428<sup>b</sup>18-24] 661a / *Sens and the Sensible* CH 4 [442<sup>a</sup>4-9] 680a b
- 12 LUCRETIUS *Nature of Things* BK IV [324 468] 48c 50b [1149 1170] 59 b
- 19 AQUINAS *Summa Theologica* PART I Q 17 A 2 102a d Q 85 A 6 ANS 458d 459c
- 29 CERVANTES *Don Quixote* PART I 50b-52d
- 30 BACON *Advancement of Learning* 58b
- 31 DESCARTES *Meditations* XII 22c 23a / *Meditations* III 33d 84a / *Objections and Replies* 229d 230d
- 35 LOCKE *Human Understanding* BK II CH XXXII SECT 19-26 247a 248b
- 35 HUME *Human Understanding* SECT XII DIV 117 504b c
- 42 KANT *Pure Reason* 108a d
- 44 BOSWELL *John* 13 d
- 53 JAMES *Psychology* 111 460a-469a esp 462b-463b 468b-469a 508 568b 570a 589b 595a esp 589b-590 593a 595a 617a 625a esp 618b 620a

4d(2) *Error in sense perception illusions and hallucination*

- 7 PLATO *Theaetetus* 520c 522b
- 8 ARISTOTLE *De Anima* 702 706d
- 9 ARISTOTLE *Parts of Animals* BK I C 1 2 [645<sup>b</sup>15 18] 173a
- 12 LUCRETIUS *Nature of Things* BK IV [324 336] 48c [722-743] 53d 54a
- 14 PLUTARCH *Moral Questions* 816d 817c
- 17 PLATO *Second Enquiry* TR VIII 64c 65c

- 19 AQUINAS *Summa Theologica* PART I Q 17 A 2 ANS 102a d Q 85 A 6 ANS 458d 459c Q 111 A 4 ANS 571b d
- 20 AQUINAS *Summa Theologica* PART III SUPPL Q 82 A 3 ANS 971a 972d
- 23 HOBBS *Leviathan* PART I 50d 52b PART III 172b d 174b 189d 190a PART IV 249d 258b d 261a
- 29 CERVANTES *Don Quixote* PART I 50b 52d
- 30 BACON *Novum Organum* BK I APH 50 111b / *New Atlantis* 213d
- 31 DESCARTES *Rules* XII 22c 23a / *Meditations* I 75c d VI 101d 102d
- 34 NEWTON *Optics* BK I 384b 385b 434a-435a 443a
- 35 LOCKE *Human Understanding* BK II CH XIX SECT 3 234b-c
- 35 BERKELEY *Human Knowledge* SECT I 4 13d
- 36 STERNE *Tristram Shandy* 234b 236b
- 44 BOSWELL *Johnson* 13c d
- 53 JAMES *Psychology* 132a 139a 248b-249b 264b 269a 462b 469a esp 462b 465a 468a 469a 475a-477b 508a 520a esp 508a 521a 522a 527a 538b 545a b 565a b 601a 606a 610b 625a 662a 663a [fn 1] 747b [fn 3] 780a 785a 786a 787b [fn 1] 842b 847b
- 54 FREUD *Origin and Development of Psychoanalysis* 3a d / *Hysteria* 31b 38d passim esp 31b d 36b d 102a 106c esp 104d 105d / *Interpretation of Dreams* 148d 149 149d 150d 337a d 353d 356b esp 354c 355b 356a b / *General Introduction* 472a c / *Ego and Id* 700c

5 *The contribution of the senses to scientific or philosophical knowledge*

- 7 PLATO *Phaedo* 224a 225a 228a 230c / *Republic* BK VI 383d 398c / *Timaeus* 455b-c / *Theaetetus* 534d 536b / *Seventh Letter* 809c 810d
- 8 ARISTOTLE *Prior Analytics* BK I CH 30 [461<sup>b</sup>28] 64a / *Posterior Analytics* BK I CH 13 [83<sup>b</sup>1-79 16] 108b b CH 18 111b-c CH 31 120a b BK II CH 19 136a 137a c / *Physics* BK I CH 1 259b b CH 8 [191 24 34] 267a b / *Heaven* BK III CH 7 [306<sup>b</sup>6-18] 397b c / *Generation and Corruption* BK I CH 2 [316<sup>b</sup>14] 411c d / *Metaphysics* BK I CH 1 [980 20-932 1] 499 500b BK XI CH 7 [1064 4-9] 592b / *Soul* BK I C 12 [402<sup>b</sup>11 403<sup>a</sup>2] 631d 63 a / *Sense and the Sensible* CH I [436 1] 437<sup>a</sup>17] 673c 674a
- 9 ARISTOTLE *Parts of Animals* BK III CH 4 [666<sup>a</sup>7 10] 193d / *Generation of Animals* BK III CH 10 [760<sup>b</sup>28 32] 301d 302a / *Ethics* BK II C 12 [114 14 15] 349c
- 10 HIPPOCRATE *Ancient Medicine* part 1 8 1a 3b / *Apophthegms* SECT I p 1 131a
- 19 AQUINAS *Summa Theologica* PART I Q 1 ANS 89c Q 84 AA 6-8 447c-451b Q 87 1 ANS 465a 466c Q 89 A 5 ANS 477a 478b Q 91 A 3 REP 1 3 486b-487d

- REF 3 510b 511b PART I II Q 3 A 3 ANS  
624b 625a
- 20 AQUINAS *Summa Theologica* PART I II Q 50  
A 3 REF 3 8b 9a PART III Q 9 A 4 766b 767b  
Q 12 A 3 REF 2 778b 779a
- 23 HOBBS *Leviathan* PART I 54b c 60a b  
PART II 129a PART IV 267a b
- 25 MONTAIGNE *Essays* 260c 261c 285c 288a  
291b 292d
- 27 GILBERT *Loadstone* PREF 1 B BK I 6a 7a  
K II 27b c
- 28 GALILEO *Tu New Sciences* FIRST DAY 131a  
138b passim
- 29 HARVEY *Motion of the Heart* 267b d 268d  
280c / *Circulation of the Blood* 322d 323d  
324c-d / *On Animal Generation* 331b 335c  
411c d
- 30 BACON *Advancement of Learning* 5b ii 16a  
34b 44 50c 51d 57b d / *Notum Organum*  
105a 195d esp BK I APH 64 114b APH 95-103  
126b 128 BK II A H 38-43 169c 175
- 31 DESCARTES *Rules* II 2d 3a vii 10c 12a  
XII 22 23a 24a B XIV 28d 33b / *Discourse*  
PART IV 53b PART VI 61d 62c / *Meditations*  
I 75b 76c v 97a 103d / *Object ions and Re-*  
*plies* 128d 129a 215b c 217 d 229d 230d
- 31 SPINOZA *Ethics* PART II PROP 40 SCHOL 2  
388a ii
- 34 NEWTON *Principles* K III RULES I-IV 270b  
271b / *Optics* BK III 543a b
- 34 HUYGENS *Light* CH I 553a
- 35 LOCKE *Human Understanding* K II CH I  
SECT 24 127b c N XXXII S CT 3 204 d  
SECT 6-7 205b 206a SECT 28 Q 211b 212a  
SECT 32 37 212c 214b BK I I CH X CT  
I 23 304d 305b BK IV CH III SE T 14  
316b d SE T 16 317a c SECT 25 29 321a 323a  
passim CH VI SECT 13 335 d CH XI SECT  
9-13 360d 362d CH XVI CT 12 370b 371a
- 35 BERKELEY *Human Knowledge* SECT 30 418c  
SECT 58-59 424a B SECT I 4 433a b SECT  
107 433d 434a
- 35 HUME *Human Understanding* S CT IV DIV  
20-SE T V DIV 38 458a-466c passim CT  
V DIV 48 471b DIV 6 477 SECT VIII  
DIV 65 479b c CT X DIV III 113 501b 502d  
esp DIV 112 501 502a
- 42 KANT *Pure Reason* S 13d 14a-c 15c 16  
31b d 46a b 58a b 66d 67b 68a 69 85a  
b 86d 87b 94b 95 211 218d / *First Principles*  
*Metaphysics of Morals* 253a 254d esp 253a c  
254b-c 263b-c 273a b / *Practical Reason* n  
295b d 312 d 329d 330 331a 332d / *Inter-*  
*Metaphysics of Morals* 387a b
- 43 MILL *Utilitarianism* 445b-447a passim  
475b d [xi i]
- 45 LAVOISIER *Elements of Chemistry* PREF IC  
2b 6d 7 PART 87b-c
- 45 FARADAY *Resistances* Electricity 774d
- 46 HEGEL *Philosophy of Right* INTRO P c 3  
10 11a / *Philosophy of History* INTRO 156  
190b
- 51 TOLSTOY *War and Peace* EPILOGUE II 684a
- 53 JAMES *Psychology* 385a b 647b 648b 677a  
851a 884b esp 860b 861a 862a 865a 867  
884b
- 54 FREUD *Narcissism* 400d 401a / *Instincts* 412a  
b / *General Introduction* 545b d / *Ego and Id*  
701d / *New Introductory Lectures* 815a 879c
- 5a SENSATION as the source or occasion of  
ideas the role of memory or remembrance  
the construction of complex ideas  
the abstraction of universal concepts
- 7 PLATO *Phaedo* 228a 230d / *Republic* BK VII  
392b 393b / *Timaeus* 455a c / *Theaetetus*  
538d 541a
- 8 ARISTOTLE *Posterior Analytics* BK I CH 31  
120a c BK II CH 19 136a 137a e / *Metaphysics*  
X I CH I [930<sup>a</sup> 981 13] 499a-c / *Soul*  
BK I CH [403<sup>a</sup> 15] 632 b BK III CT 7  
[431 14]-CH 8 [432 14] 663d 664d / *Memory*  
and *Reminiscence* CH I [449<sup>b</sup> 30 450<sup>a</sup> 25] 690c  
691a
- 19 AQUINAS *Summa Theologica* PART I Q 5  
A 2 REF 2 289d 290d Q 75 A 2 REF 3 379c  
380c A 3 REF 2 380 381b Q 79 AA 3-5  
416a-419b Q 84 A 2 REF I 442b-443 A 6  
447c-449 Q 85 A 2 451c 453 PART Q 2  
A 6 REF 2 619d 620d Q 29 A 6 AN 748b  
749a
- 20 AQUINAS *Summa Theologiae* PART I Q I  
A AN 777b 778b
- 21 DANTE *Divine Comedy* PARADISE IV [ 8 48]  
111a
- 23 HORACE *Lesbian* PART I 49a 52b c 54a c  
PART IV 262a b
- 28 GILBERT *Loadstone* BK V 105c
- 28 HARVEY *Circulation of the Blood* 305a / *On*  
*Animal Generation* 332 335c
- 31 DESCARTES *Rules* VI 13a 14b VII 18b /  
*Discourse* PART II 47 d PART IV 53b
- 35 LOCKE *Human Understanding* BK I H I  
S CT 15 98d 99a BK II CH I 121a 129b esp  
CH I S CT I-8 121a 123a SECT 20-35 126d  
127d CH II SECT 2 128a b CH VII S CT 10  
133 b CH IX SECT 15 141a CH X SECT 4-9  
144d 145c CH XI SE T 15-CH XII SECT 2  
146d 147d N XI S CT 8 148 d CH X  
SECT 2 149a S T 4-6 149b d SECT 27 154c d  
CH XIV S C 7 160d 161a S T 30-31 161  
162 CH XVI T 1 165 d SECT 5 166b c  
CH XVI S CT 3 168b CT 5 168d 169a CH  
XV CT 2 CH XV SECT I 173d 174  
CH XV SECT 6 174 d CH XVI SECT  
201 b S CT 9 202c 203a N XX I E Y I  
204 b S CT 3 204c d SECT 9 206b SECT  
15 208c d SECT 9 211d 212 CT 32-37  
212c 214b N XXV CT 9 216d CT  
217 CH XXX S C 3 238 d CH XXX I SECT  
6-8 244b d CT 245b K CH I  
S T 5 252b-c CH II S CT 3 253 N SECT  
6-9 255 256 CH V Y I 14 262b 263a  
N VI S C 9 270d 271 CT 8 47 276a

- (5) *The contribution of the senses to scientific or philosophical knowledge* 5a *Seisition as the source or occasion of ideas the role of memory or reminiscence the construction of complex ideas the abstraction of universal concepts*

282b esp SECT 46-47 281d 282b CH VI SECT 21 23 304d 305b BK I CH IV SECT II 12 326b d

- 35 BERK LEY *Human Knowledge* INTRO SECT 6-1f 405d 409d passim SECT I 413a b

- 35 HUME *If man Under tanding* SECT II 455b 457b esp DIV 13 14 455d 456b SECT VII DIV 49 471c d

- 42 KANT *Pure Reason* 23a 24a 45b-46a / *Fund Prin Metaphysic of Morals* 281c 282c

- 45 LAVOISIER *Elements of Chemistry* PREF 1c 2a

- 53 JARVIS *Psychology* 171b 175a 302b 327a 331b 405b 407a 455a II 480a 484a 540a 635a esp 547a 550b 551b 552a 561a b 584 b 593a 595a 626a 628a 630b 631a 632b 635a 787a

- 54 FREUD *Interpretation of Dreams* 353d 354a 367c / *Unconscious* 442b 443d / *Ego and Id* 700a 701d

# 5b Sense experience the origin of inductions

- 8 ARI TOTL *Physics* A I 111c 112c 30 [46 18-28] 64a / *Posterior Analytics* BK I CH 18 111b II BK II CH 2 [90 24 30] 123b c CH 19 136a 137a / *Physics* BK I CH 1 [191 24 34] 267a II / *Generation and Corruption* BK I CH 2 [316 5 14] 411c d / *Metaphysics* BK I CH 1 499a 500b / *Soul* BK I CH I [402<sup>b</sup> 11 403 2] 631d 632a

- 9 A ISTOTLE *Ethics* BK I CH 7 [109<sup>b</sup> 34 8] 343d 344a BK VI CH 8 [1142 12 31] 391b c CH II [1143 25 3] 392d 393a

- 20 AQUINAS *Summa Theologica* PAR I II Q 51 A I A 12b 13c

- 28 HARVEY *Motion of the Heart* 273c d / *Circulation of the Blood* 312d 323d 324c d / *On Animal Generation* 332a 335c esp 334c d 473a

- 30 BACON *Advancement of Learning* 16a 34b 43d-44c / *Novum Organum* BK I PH I 7 107d 108 A II 19 108b AP I 22 108c BK II AP I 35-43 169c 175c

- 31 DE CARTES *Rule VII* 10c 12a XIV 28a b / *Discourse* PART VI 61d 62c / *Objections and Replies* 167c d

- 31 S I *Ethics* PART II PRO 4 SC O I 2 387b 388b

- 34 NEWTON *Principles* BK II RULE III IV 270b 271b

- 35 BERKELEY *If man Knowledge* SECT 07 433d-434a

- 35 HUME *Human Understanding* BK I CH I DIV 19 458a

- 38 ROUSSEAU *Discourse* 341c 342b

- 45 FARADAY *Experimental Electricity* 659a

- 46 HELLER *Psychology* PART I 361a b

- 53 JAMES *Psychology* 862a 865a

- 54 FREUD *Instincts* 412a

- 5c *The dependence of understanding or reason upon sense for knowledge of particular verification by appeal to the senses*

- 7 PLATO *Republic* BK IV 421a-422b

- 8 ARISTOTLE *Physics* BK I CH 8 [191 24 34] 267a II BK VII CH 3 [247<sup>b</sup> 7] 330b / *Metaphysics* BK I CH 3 [270<sup>b</sup> 13] 361c d BK III CH 7 [306 1-18] 397b c / *Generation and Corruption* BK I CH 2 [316 5 14] 411c d / *Soul* BK I CH I [402<sup>b</sup> 11 403<sup>a</sup> 2] 631d 632a BK III CH 8 [432 2 9] 664c

- 9 ARISTOTLE *Motion of Animals* CH I [698 10-15] 233a / *Generation of Animals* BK III CH 10 [760<sup>a</sup> 28 32] 301d 302a / *Ethics* BK II CH 7 [110, 27 32] 352d 353a CH 9 [1109<sup>a</sup> 20-23] 355c BK X CH I [1172 34 37] 426b CH 8 [1179 17 22] 433d 434a / *Politics* BK VII CH I [1323 33-37] 527b

- 10 GALEN *Natural Faculties* BK III CH 2 199d

- 12 LUCRETIVS *Nature of Things* BK I [418 44]

- 6b c [690 704] 9c BK IV [469-521] 50b 51a

- 18 AUGUSTINE *City of God* BK VIII CH 7 260c d

- 19 AQUINAS *Summa Theologica* PART I Q 14 A I 84c 85c Q 32 A I REP 2 175d 178a Q 5 2 295d 297a Q 84 AA 7 8 449b 451b Q 86 A I 461c-462a

- 23 HOBBS *Leviathan* PART I 85d PART II 165a PART IV 49b 250a

- 25 MONTAIGNE *Essays* 260c 261c 285c 286a 287b 291b 292d

- 28 GALILEO *Two New Sciences* THIRD DAY 200a b

- 28 HARVEY *Motion of the Heart* 268d 273c 286b-c 295d 296a / *Circulation of the Blood* 322d 323d 324c d / *On Animal Generation* 331b 335c 357b

- 30 BACON *Advancement of Learning* 57d 58b / *Novum Organum* BK I AP II 50 111b AP II 116b 117a BK II 137a 195d passim

- 31 DESCARTES *Discourse* PART VI 61d-62c 66a b / *Meditations* 175a 77c / *Objections and Replies* 229d 230d

- 34 NEWTON *Principles* BK III RULE III IV 270b-271b

- 35 LOCKE *Human Understanding* BK II CH IV 3 CT 6 131a BK IV CH XI 3 CT 13 362c d

- 35 HUME *Human Understanding* SECT X DIV 46 488d-489b SECT XI DIV 110 501a b SECT XII DIV 132 509a d

- 42 KANT *Pure Reason* 85d 93c 114d 115 146a 149d 153 II 231b c / *Practical Reason* 337a-c

- 43 MILL *Utilitarianism* 461c d 463c d

- 44 HOWELL *Journal* 129

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- II Works by authors not represented in this collection

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## Chapter 85 SIGN AND SYMBOL

### INTRODUCTION

A SIGN points to something. A symbol stands for or takes the place of another thing. Sign and symbol are sometimes differentiated according to whether emphasis is placed on that which is signified or pointed out or on that which functions as a surrogate or substitute.

Yet sign and symbol are often used interchangeably. We call the notations of music or mathematics either signs or symbols. Words too are traditionally spoken of as signs or symbols. Words and other conventional notations for expressing meaning both point to and stand for something else. It is only in certain cases that one of these two functions seems to predominate as the road marker points out the direction to take and paper money takes the place of the precious metal whose value it represents.

On what is common to signs and symbols of all sorts there seems to be no disagreement throughout the tradition of western thought. From Augustine's statement that a sign is a thing which over and above the impression it makes on the senses causes something else to come into mind as a consequence of itself to Freud's analysis of the symbolism of dreams of symptom and symptomatic acts the great books consider sign or symbol as one term in a relation the relation being one of meaning or as Freud says of significance intention tendency. The fundamental problems traditionally discussed concern the nature of meaning itself and the modes of signification which vary with the kinds of things that function as signs and the kinds of things they signify.

WITH RESPECT TO THINGS which function symbolically the primary distinction seems to be that between natural and conventional signs. Augustine at first suggests a threefold division

Some things are simply things and not signs at all. Some (for example the ram which Abraham offered up instead of his son) are not only things but also signs of other things. And some things such as words are never employed except as signs. Augustine adds that words are not merely signs. Every sign he writes is also a thing for what is not a thing is nothing at all.

The distinction between natural and conventional signs falls within this threefold division. Natural signs, Augustine says, are those which apart from any intention or desire of using them as signs do yet lead to the knowledge of something else as for example smoke when it indicates fire. For it is not from any intention of making it a sign that it is so but through attention to experience we come to know that fire is beneath even when nothing but smoke can be seen. And the footprint of an animal passing by belongs to this class of signs.

Augustine seems to find natural signs in things that are related as cause and effect. Berkeley on the other hand tends to substitute the relation of sign and thing signified for the relation of cause and effect. The fire which I see he writes is not the cause of the pain I suffer upon my approaching but the mark that forewarns me. In like manner the noise that I hear is not the effect of this or that motion or collision of the ambient bodies but the sign thereof.

Every natural thing or event thus tends to become the sign of something else so that the whole of nature constitutes a vast symbolism or language by which God informs us of his plan. Aristotle tends in the opposite direction to limit natural signs to those things which according to our knowledge and experience permit a necessary or probable inference to something else. The fact that a woman is giving milk

he regards as an infallible sign that she has lately borne a child the fact that a man is breathing fast is merely a probable and refutable sign that he has a fever

In any case signs are generally acknowledged to be natural if they satisfy Augustine's criterion that they were not intentionally devised by men for the purpose of signifying. Conventional signs on the other hand he writes are those which living beings mutually exchange for the purpose of showing as well as they can the feelings of their minds or their perceptions or their thoughts. Of conventional signs Augustine goes on to say words hold the chief place because everything which can be expressed by gestures or by such non-verbal symbols as flags or bugle calls can also be expressed in words whereas many thoughts which words readily express do not lend themselves easily to other modes of expression.

Except for the hypothesis (discussed in the chapter on LANGUAGE) of a natural form of speech common to all men and consisting of words perfectly adapted to the objects they name it is never proposed that words are any thing but conventional signs. As Aristotle says

nothing is by nature a noun or a name—it is only so when it becomes a symbol. The audible sound or the visible mark becomes a symbol only by human institution or convention.

Yet not all the audible sounds which men and other animals make to express their feelings or desires are in Aristotle's opinion to be regarded as words. Inarticulate sounds such as those which brutes produce are significant yet none of these constitutes a noun. Nor are such cries whereby one animal calls another or communicates fear or anger strictly conventional signs for as Augustine points out they are instinctive modes of expression and so are natural rather than conventional. They are not voluntarily instituted.

IN TERMS OF THE ancient distinction between the conventional and the natural—that which changes from time to time and place to place and that which is everywhere and always the same—no one would question the conventionality of words and of all other non-verbal symbols which are peculiar to one people one culture or one epoch. That words are con-

ventional signs raises the central problem concerning their meaning or significance. Utterly dissimilar words in different languages can have the same meaning and identical sounds or marks in different languages can mean quite different things. Since the sounds or marks which constitute spoken and written words do not possess meaning naturally from what source do such conventional signs get the meanings they have?

The usual answer given by Aristotle, Locke and others is that words get their meanings from the ideas, thoughts or feelings which men use them to express. Spoken words, writes Aristotle, are the symbols of mental experience and written words are the symbols of spoken words. Just as all men do not have the same writing so all men do not have the same speech sounds but the mental experiences which these directly symbolize are the same for all as also are those things of which our experiences are the images.

In addition to being able to make articulate sounds it was necessary for man, Locke says, to be able to use these sounds as signs of internal conceptions and to make them stand for marks for the ideas within his own mind whereby they might be made known to others. Thus words came to be used by men as the signs of their ideas not by any natural connexion that there is between particular articulate sounds and certain ideas for then there would be but one language amongst all men but by a voluntary imposition whereby such a word is made arbitrarily the mark of such an idea. The use then of words is to be sensible marks of ideas and the ideas they stand for are their proper and immediate signification.

Locke goes further. Not only does the immediate signification of words lie in the ideas they stand for but in his view words can be signs of nothing else. Yet he also considers the fact that men because they would not be thought to talk barely of their own imaginations but of things as they really are often suppose their words to stand also for the reality of things. Locke thinks nevertheless that this is an obscurity and confusion which enters into the signification of words whenever we make them stand for anything but those ideas we have in our own mind.



But though the meaning of a word may come from the idea it signifies the word which is thus made meaningful seems in the common usage of mankind to serve as the name or designation of some real thing. It refers to something other than ideas or concepts in the human mind. Locke himself talks of the application of names to things and in his consideration of the distinction between proper and common names is concerned to point out that though they differ in meaning (i.e. differ in the type of idea they signify) both refer to the same sort of reality—individual existences. Aristotle and other writers who distinguish between things in the order of nature and the concepts we form of them tend to take both views of the significance of words. Words signify the real things which they name as well as the ideas whose meanings they express. If we waive for the moment the possibility that some words may signify *only* ideas whereas others signify both ideas and things two questions may be asked. Are there any words which signify things alone? What is the relation between the idea and the thing a word signifies when a word signifies them both—that is when a word has both sorts of significance how are they related to one another?

Aquinas answers the second question by saying that since words are the signs of ideas and ideas the similitudes of things it is evident that words function in the signification of things through the conceptions of the intellect. Ideas may be the immediate or proximate object which words signify but through them words ultimately signify the real things which are themselves the objects of ideas. According to this theory an idea may be both the *object signified* by a word and the *medium through which* that word also signifies the thing of which we have the idea. Aquinas seems to think that ideas are always required as the medium whereby words signify things. We can give a name to anything, he says, only insofar as we can understand it. Yet if this is impossible for words to signify things directly (i.e. without the mediation of ideas)

is also a thing has a different meaning when it is said of the sensible things which also happen to be signs and of the things of the mind—concepts or ideas—which cannot be without being signs. The understanding of this difference helps to explain the relation between verbal signs and the mental signs through which they signify or from which they get their meanings.

Whereas words are in the first instance meaningless marks and sounds which get meaning when men use them to express their thoughts or feelings ideas and images are at once meaningful however they arise in the mind. They are natural signs in the sense that it seems to be their very nature to signify. They do not get meaning. They do not even have meaning in the way in which smoke as a natural sign of fire has a meaning which is distinct from though a consequence of its nature as smoke. An idea is a meaning, an intention of the mind as it is sometimes called a reference to an object thought about. The idea of fire is the meaning the word fire has when it designates the natural phenomenon which that word is conventionally used to name and as Aristotle suggests the conventional signs of different languages (e.g. fire and *feuer*)—have the same meaning because the idea of fire is the same and the natural phenomenon experienced and thought about is the same for men of diverse tongues.

That ideas or mental images are themselves meanings or intentions—the symbols of things thought about—seems to be recognized in different ways by many writers in the tradition of the great books. In the *Cratylus* Socrates suggests that signs should be like the things they signify. Some conventional signs he thinks are better than others in this respect. He implies that all words are inferior to mental images which by their very nature imitate or resemble their objects.

The act of memory according to Aristotle requires a memory image which is something like an impression or picture of the thing remembered. If the memory image through its resemblance to something once experienced did not function as the sign of that absent thing memory would not be memory for Aristotle argues it would consist in beholding

THIS POSITION HAS a number of consequences for the theory of signs and raises a number of issues. Augustine's statement that every sign

the memory image itself which is present rather than the absent thing it stands for

Aquinas perhaps is the writer most explicit in his treatment of images and ideas as in their very nature meanings or intentions of the mind. His calling them mental words seems to indicate that in his view they like physical and sensible words are signs but the added qualification of mental also implies their difference. The vocal sound which has no signification he writes cannot be called a word wherefore the exterior vocal sound is called a word from the fact that it signifies the interior concept of the mind. It follows that first and chiefly the interior concept of the mind is called a word. The mental word or concept suffices when the mind turns to the actual consideration of what it knows habitually for then he adds a person speaks to himself. But unlike angels who can make their concepts known to one another immediately men require the medium of external speech. They must use sensible physical signs to communicate their thoughts.

Without referring to ideas as mental words Locke does appear to identify ideas with meanings and to regard them as signs. The definition of a word he says is an attempt to make known the meaning or idea it stands for. Denying that the general and the universal belong to the real existence of things he holds that they "concern only signs whether words or ideas. Words are general when used for signs of general ideas and ideas are general when they set up as the representatives of many particular things but universality belongs not to things themselves which are all of them particular in their existence even those words and ideas which in their signification are general.

The basic issue to which Locke is addressing himself is discussed in the chapter on UNIVERSAL AND PARTICULAR. Locke's solution seems to involve the affirmation of abstract ideas which are general or universal in their significance and through which common names come to have a different sort of meaning from the meaning of proper names. Ideas become general by separating them from the circumstances of time and place and any other ideas that may determine them to this or that particular existence. Common nouns like man

or cat become general in their significance according to Locke by being made the signs of general ideas.

To the question of what kind of signification it is that general words have Locke replies. As it is evident that they do not signify barely one particular thing for then they would not be general terms but proper names so on the other side it is as evident they do not signify a plurality for man and men would then signify the same. That then which general words signify Locke declares is a sort of thing and each of them does that by being a sign of an abstract idea in the mind.

It seems to follow therefore that those who like Hobbes and Berkeley deny the existence of abstract ideas or universal concepts must offer a different explanation of the meaning of common nouns or general names. There being nothing in the world universal but names Hobbes writes a name is universal when it is imposed on many things for their similitude in some quality or other accident and whereas a proper name bringeth to mind one thing only a universal recalls any one of those many.

On similar grounds Berkeley criticizes Locke's theory of how words acquire general significance. His own theory is that words become general by being made the sign not of an abstract general idea but of several particular ideas any one of which it indifferently suggests to the mind. And in another place he says that an idea which considered in itself is particular becomes general by being made to represent or stand for all other particular ideas of the same sort. He does not himself explain how we come by the notion of the same sort or how one particular idea can represent the sort to which other particular ideas belong. But he rejects Locke's explanation because it involves ideas which are not only general but also abstract.

The attempt to account for the meaning of general names is in Berkeley's view the cause of Locke's acceptance of abstract ideas. If there had been no such thing as speech or universal signs he writes there never [would have] been any thought of abstraction. Not only do men mustakenly suppose that every name has or ought to have one only precise and settled signification which inclines [them]

to think there are certain abstract determinate ideas that constitute the true and only immediate signification of each general name but they also suppose that it is by the mediation of these abstract ideas that a general name comes to signify any particular thing. Whereas in truth Berkeley concludes there is no such thing as one precise and definite signification annexed to any general name. Where Locke would say that a common name gets its general meaning by signifying one idea which itself has general significance. Berkeley reiterates that a general name gets its meaning from a great number of particular ideas all of which it signifies indifferently.

THE RELATION OF WORDS TO IDEAS raises still other problems in the theory of signs problems which have peculiar interest in the tradition of the liberal arts. One of these problems has already been mentioned. It is the question whether some words signify ideas alone in contrast to words which signify ideas and through them things. This suggests the parallel problem of words which signify words in contrast to words which are the names of things.

In his little tract *Concerning the Teacher* Augustine points out that some words such as noun and adjective signify kinds of words just as other words such as man and stone signify kinds of things. Furthermore in the sentence man is a noun the word man signifies itself as the object referred to whereas in the sentence man is an animal the word man signifies a living organism of a certain sort. The same word therefore may signify both itself and some thing other than itself.

These differences which Augustine observes in the signification of words come to be formulated in the traditional distinction between the first and second imposition of words. A word is used in the first imposition when it is used to signify things which are not words as for example the word man when it refers to a human being. A word is used in the second imposition when it is applied to word rather than things as for example the word noun said of man or the word man when it is used to refer to itself in the sentence man is a noun.

A parallel distinction is that between words

used in the first and the second intention. When the word man is used to signify a living organism of a certain sort it is used in the first intention because it signifies a reality not an idea. A word is said to be used in the second intention when it signifies an idea rather than a thing. For example in the sentence man is a species the word species signifies a logical classification and so is in the second intention and the word man is also in the second intention because it refers to the idea which is denominated a species.

In some cases an idea may not signify things at all but only other ideas such as the logical notions of *genus* and *species*. Words like *genus* and *species* unlike the words man and stone can therefore be used only in the second intention. The idea man is called a first intention of the mind because its primary function is to signify the living thing. Only secondarily does it signify itself as an object able to be considered. The idea species on the other hand is called a second intention because its sole function is to signify ideas which stand to other ideas in a certain relation.

Hobbes concisely summarizes most of these points when he points out that some words are the names of the things conceived whereas others are the names of the imaginations themselves that is to say of those ideas or mental images we have of all the things we see and remember. And others again are names of names as universal plural singular are the names of names. The names which we apply to particular species and genera such as man and animal. Aquinas says "signify the common natures themselves but not the intentions of these common natures which are signified by the terms *genus* or *species*".

ANOTHER TRADITIONAL distinction in the modes of signification is that between intrinsic and extrinsic denomination. A name is said to be an intrinsic denomination when it is applied to a thing in order to signify its nature or its inherent properties and attributes as for example when we call a thing animal or rational white or square. A name is said to be an extrinsic denomination when it is applied to a thing only in order to signify some relation in which that thing stands to some-

thing else as for example when we call sunshine healthy because it helps to produce healthy organisms or when we apply the names of animals such as pig or fox to men because we think the men bear certain resemblances to these animals. The same word can be used in different connections both as an intrinsic and as an extrinsic denomination. Healthy means an inherent quality when it is applied to living organisms and a causal relation to organic health when it is applied to sunshine. pig means a certain kind of animal when it is applied to the four footed mammal and only a resemblance to this animal in certain characteristics when it is applied to men.

This double use of the same word exemplifies what is traditionally called equivocal speech or the equivocal use of a name. Some writers tend to identify equivocation with ambiguity on the ground that both involve a multiplicity of meanings for the same word. Others seem to think that a word is used ambiguously only if its user is indefinite as to which of its several meanings he intends to express but they hold that a word can be used equivocally without ambiguity if its user makes plain that he is employing it now in this sense now in that.

Aristotle says that two things are named equivocally when though they have the same name the definition corresponding with the name differs for each and on the other hand things are said to be named univocally which have both the name and the definition answering to the name in common. When we call a man and a pig an animal we are using that word univocally because we are using it with the same definition or meaning in both cases but when we call a pig and a man a pig we are using that word equivocally because we are using it with different meanings signifying *having the nature of a pig* in one instance and *being like a pig in certain respects* in the other.

Aristotle distinguishes several types of equivocation of which we have already noted two. The use of the word healthy to describe an animal and sunshine is that type of equivocation in which the same word is used to name an inherent attribute and also a cause of that attribute in other instances of the same type. It might be used to name the nature or attribute but the effect rather than the cause.

Speaking of a man and a pig as a pig represents the metaphorical type of equivocation in which the same word is used to name the nature of a thing and something else of a different nature which has only a likeness to that nature.

Metaphors in turn can be divided into types. Some are based on a direct similitude between two things in some accidental respect e.g. the man who is like a pig in manner of eating. Some Aristotle says are based on analogies or proportions as for example when we call a king the father of his people. Here the metaphor is based on the similarity of the relationship of a king to his subjects and of a father to his children. The name father is used metaphorically when it is transferred from one term in this proportion to the term which stands in an analogous position.

A third kind of metaphor according to Aristotle consists in the use of the same word now in a more generic now in a more specific sense or with broader and narrower meanings. Of this he gives an example in the *Ethics* when he discusses general and special justice using the word justice narrowly to signify one of the special virtues and broadly to mean all the virtues considered in their social aspect. There is a sense of the word justice he writes in which it signifies not part of virtue but virtue entire this form of justice is complete virtue though not absolutely but only in relation to our neighbor. The word injustice is also used in a correspondingly wide sense. But there is another kind of injustice which is a part of injustice in the wide sense. This particular injustice Aristotle says shares the name and nature of the first because its definition falls within the same genus. As Aristotle treats this type of equivocation in the *Rhetoric* and the *Poetics* it includes three possibilities the transfer of the name of a genus to one of its species the transfer of the name of a species to its genus and the transfer of the name of one species to another in the same genus.

It may be questioned whether this type of equivocation is properly classified as metaphorical. Aristotle's own definition of metaphor as giving a thing a name that belongs to something else in this type of equivocation exemplified by the use of the word justice now

with a generic and now a specific meaning the name does not seem to belong to the genus any more than it does to the species or conversely. In contrast when the name *father* is given to a king in relation to his people the usage is metaphorical because the name *father* belongs to something else *i.e.* the man who is a progenitor.

The same point can be made in terms of intrinsic and extrinsic denomination. When *justice* is used as the name for the whole of virtue (regarded socially) and also for one particular virtue the word is an intrinsic denomination in both instances. In all other types of equivocation the equivocal word is used once as an intrinsic and once as an extrinsic denomination. For example as applied to the animal the word *pig* is an intrinsic denomination but it is an extrinsic denomination when it is applied to a man in order to signify a certain resemblance to the animal to which the name belongs. The same is true in the case of the word *healthy* as said of an animal and of sunshine.

In all these cases of equivocation the two meanings of the same word are not totally distinct. On the contrary the two senses have something in common. One of the meanings seems to be derived from the other: one appears to be secondary (usually the one involved in the extrinsic denomination) and the other primary. What is traditionally called equivocation by chance in contrast to equivocation by intention is the extreme case in which the same word is used in two utterly distinct senses having no common element of meaning at all *e.g.* the word *pen* used for a writing instrument and an enclosure for animals. Equivocation by intention in which the different meanings of a word have something in common thus appears to be intermediate between equivocation by chance (in which the meanings share no common element) and univocal usage (in which the meaning is exactly the same each time the word is used).

In the *Physics* Aristotle seems to discover still another type of equivocation. A pen, a wine and the highest note in a scale are not commensurable he writes. We cannot say whether any one of them is sharper than any other because it is only equivocally that the same term *sharp* is applied to them. This

does not seem to be equivocation by chance for the word *sharp* seems to have some common meaning as applied to the three objects which affect the diverse senses of touch, taste and hearing nor is it like all other cases of equivocation by intention in that no one of these three meanings of *sharp* seems to be primary and the others derived from it. Furthermore in all three meanings the word *sharp* is used as an intrinsic denomination.

In the *Metaphysics* Aristotle also considers the special pattern of meaning which words like *being* or *one* have when they are applied to such heterogeneous things as substances, quantities, qualities, etc. He refers to these words as ambiguous or equivocal comparing them with the word *healthy* as said of an animal and of other things which either cause health or are effects of health. It may be questioned however whether *being* is equivocal in the same way that *healthy* is since it always carries the significance of an intrinsic never of an extrinsic denomination. *Being* as said of heterogeneous things seems to be more like *sharp* said of diverse sensible qualities—having a meaning which remains somehow the same while it is diversified in each case according to the diversity of the objects to which it applies.

THESE CONSIDERATIONS of the univocal and the equivocal sign along with the treatment of ambiguity and intrinsic and extrinsic denomination indicate the extent and manner in which the great books anticipate the kind of analysis which in our time has come to be called semantics. The chapter on LANGUAGE gives further evidence of the fact that many of the points and distinctions made in contemporary semantics have a long history in the tradition of the liberal arts. Furthermore as the chapter on LANGUAGE indicates contemporary semantics cannot even claim novelty for its great interest in freeing men from the tyranny of words or in serving as a critical instrument to cut through the vicious abstractions of metaphysics. Hobbes and Locke frequently dismiss theories not on the ground that they are false but rather because they think that the statement of them consists in so many meaningless words.

In the tradition of the great books the analysis of words and their modes of signification seems to be motivated by other interests as well as these. The distinction between the univocal and the equivocal sign for example is considered in its bearing on the logical problems of definition and demonstration as well as for the sake of proposing remedies to safeguard discourse against ambiguity. It is also brought to bear upon the theological problem of the meaning of the names men apply to God and on the way in which they interpret the words of Sacred Scripture.

The problem of the names of God is discussed in the chapter on SAME AND OTHER in terms of the kind of likeness which can obtain between an infinite being and finite creatures. As there appears Aquinas takes the position that God and creatures are neither the same in any respect nor are they in all respects so diverse as to be utterly incomparable. Though an infinite and a finite being are in his view incommensurable yet they can also have some sort of similitude—not an unqualified sameness but the kind of similarity which can be described as an intrinsically diversified sameness.

Aquinas holds therefore that no names can be applied to God and creatures univocally for no name belongs to God in the same sense that it belongs to creatures. Nor he goes on to say that names applied to God and creatures in a purely equivocal sense for it would follow then that from creatures nothing at all could be known or demonstrated about God which supposition Aquinas denies. Between these two extremes of the simply univocal and the purely equivocal he finds a middle ground in a type of signification which he calls analogical. The meaning of an analogical name he says is not as it is in univocals one and the same yet it is not totally diverse as in equivocals.

What he means by pure equivocation seems to be what earlier writers call equivocation by chance and what he means by the analogical seems to correspond to what they call equivocation by intention. Univocal names have absolutely the same meaning he writes while equivocal names have absolutely diverse meanings whereas in analogicals a name taken in one signification must be placed

in the definition of the same name taken in other significations as for instance being which is applied to *substance* is placed in the definition of being as applied to *accident* and healthy applied to *animal* is placed in the definition of healthy as applied to *urine* and *medicine*.

But as we have seen there are many types of equivocation by intention—the attributive based on cause and effect as exemplified by the word healthy that involving broader and narrower meanings exemplified by the word justice; metaphors of the sort exemplified by calling a man pig and of the sort based on analogies when we speak of a king as the father of his people and finally the very special type of equivocation found in sharp applied to a tone a taste and a touch.

If Aquinas places the kind of signification he calls analogical in the general area of equivocation by intention it may be asked whether the various names of God are all analogical in the same way. The answer seems to be negative for he distinguishes those names which have only a metaphorical sense when said of God such as angry or jealous and he denies the opinion of those who say that God is called good only in an attributive sense *sc* signifying him to be the cause of the goodness found in creatures. On the contrary he thinks that words like good and wise and especially the name being are to be interpreted as intrinsic denominations when applied to both God and creatures.

For Aquinas as for Aristotle that would appear to make the pattern of meaning exhibited by the word sharp the model for the significance of being rather than that found in the merely attributive equivocation of the word healthy—whether being is said of substance and accidents or of God and creatures. The point seems to be unaffected by the fact that Aquinas calls this type of signification analogical whereas Aristotle always refers to being as equivocal. Aristotle never treats any type of equivocation as analogical except the metaphor which results from transferring the name of one term in a proportion to another term standing in the same or a similar relationship.

THE DISTINCTION BETWEEN literal and figurative or metaphorical speech seems to be of prime importance in the theologian's rules for interpreting the word of God. As indicated in the chapter on RELIGION, Augustine insists that the language of Holy Writ must be read in many senses. Aquinas distinguishes a basic literal sense from three modes of spiritual meaning. That signification whereby words signify things belongs to the first sense, the historical or literal. That signification whereby things signified by words have themselves also a signification is called the spiritual sense, which is based on the literal and presupposes it. The spiritual sense Aquinas divides into the allegorical, the moral, and the analogical.

To grasp the various spiritual meanings, the reader must understand that in Holy Scripture divine things are metaphorically described by means of sensible things. As in the symbolism of the sacraments, physical things serve as the outward and visible signs of an inward and spiritual grace, so also in Holy Scripture spiritual truths are fittingly taught under the likeness of material things.

A theologian like Aquinas thus justifies metaphors not only in Scripture but also in sacred doctrine or theology as both necessary and useful, whereas in his view the poet's employment of them is solely for the sake of pleasure. Philosophers and scientists, on the other hand, often take the opposite view—that metaphors have a place only in poetry and should be avoided in the exposition of knowledge.

In the writing of poetry, the command of metaphor, says Aristotle, is the mark of genius, but all his rules for the construction of

scientific definitions and demonstrations require the avoidance of metaphors as of all other forms of equivocation. So too Hobbes inveighs against metaphors and figures of speech, giving as one of the main causes of absurdity in science the use of metaphors, tropes, and other rhetorical figures instead of words proper. For though it be lawful to say (for example) in common speech *the way goeth or leadeth hither or thither*, the Proverb says *this or that* (whereas ways cannot go nor Proverbs speak), yet in reckoning and seeking of truth such speeches are not to be admitted.

Darwin looks forward to the day when the terms used by naturalists of affinity, relationship, community of type, paternity, morphology, adaptive characters, rudimentary and aborted organs, and so forth, will cease to be metaphorical and will have a plain significance. Freud, on the other hand, aware of how pervasive symbolism is in all the works of man, normal and neurotic, dreaming and awake, seems to be reconciled to the inevitability of metaphors in scientific discourse. The difficulty we meet with in picturing certain psychological processes, he writes, comes from our being obliged to operate with scientific terms *as* with the metaphorical expressions peculiar to psychology. Otherwise we should not be able to describe the corresponding processes at all, nor in fact even to have remarked them. The shortcomings of our description would disappear if for the psychological terms we could substitute physiological or chemical ones. These too only constitute a metaphorical language, but one familiar to us for a much longer time and perhaps also simpler.

## OUTLINE OF TOPICS

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- 1b The intentions of the mind: ideas and images as natural signs
- 1c The things of nature functioning symbolically: the book of nature
- 1d The conventional notations of human language: man's need for words
- 1e The invention of non-verbal symbols: money, titles, seals, ceremonies, courtesies
- 1f Natural signs as the source of meaning in conventional signs: thought as the medium through which words signify things

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5 Aeschylus *Prometheus Bound* [442-506] 44  
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18 AUGUSTIN *Christ n Doctr ne* A I CH 2  
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20 AQUINAS *Summa Theol gica* PART III Q 12  
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12 LUCRETIVS *Natu f Th g* K V [ 8-  
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15 T C TUS *Ann ls* BK XI 103c d

18 AUGUSTINE *Confess ons* K X par 19 76 b  
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19 AQUINAS *Summa Theol gica* RT I Q 107,  
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20 AQUINAS *Summa Theolog ca* PART III Q 60  
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21 DANTE *Divine Comedy* PARADISE XXXVI [124-  
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25 MONTAIGNE *Essays* 300

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35 BERKELEY *Human Knowledge* SECT 121  
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36 SW T *Gull er* PART I 111a b

38 ROUSSEAU *Inequality* 339d 342c 349d 350a

40 GIBSON *De l e and Fall* 675d [n 83] 756a  
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45 LAVOISIER *Elements of Chemistry* PREF 1 c

46 HEGEL *Philosophy of Right* PART I p r II  
32d 33a / *Philosophy of History* PART I  
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49 DARWIN *Descent of Man* 298d 299b 329a b  
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53 J A ES *Psychology* 650b 683b 685a

54 FREUD *General Introduction* 516b c

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4 HO ER *Iliad* BK II [84 1 9] 10d 11a BK  
XVIII [478-613] 135a 136d

5 A S KYLUS *Seven Against Thebes* [375-675]  
31b 34b / *Agamemnon* [905-957] III 62b

5 EUR IPDES *Hecuba* [299-331] 355b-c / *Phoe  
nician M dents* [1093 1140] 387d 388a

6 HERODOTUS *History* BK IV 146d 147a BK  
V 174b K VI 264c K IX 306b

6 TUCYDIDES *Plato ean War* K  
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7 PLATO *Ctylus* 104d 105a

9 AR TOTLE *Eth cs* K V n 5 [1133 5 b 29]  
380d 381c / *Rhetoric* BK I CH 5 [1361-27 b 2]  
601d 602a

17 P OTINUS *Ff f E cad* TR VIII CH 6 242c d

18 AUGUSTINE *Christi D ctine* BK CH  
636b d 637a CH 3 637 d 25 649b d

19 AQUIN *Summ Th lg* ART I I II  
AA I 615d 617b

20 AQUINAS *Summ Th lg ca* PART Q 6  
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23 HO *Leviathan* PART 73c 75d

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- 24 RABELAIS *Gargantua and Pantagruel* BK I 11d 14b BK III 101b 106a
- 25 MONTAIGNE *Essay* 215b 216b
- 26 SHAKESPEARE *Richard II* CT III SC II [160-177] 337b ACT IV SC I [181-211] 343b c / *King John* ACT IV SC II [1-34] 394b d / *Merchant of Venice* ACT II SC VII [48-60] 416d SC IX [20-52] 417d-418a ACT III SC II [73-107] 420d-421a / *1st Henry IV* ACT I SC IV [77-101] 465a b / *2nd Henry IV* ACT III SC I [4-31] 482d-483a ACT IV SC V [21-47] 494c d / *Henry V* ACT IV SC I [50-303] 554a c
- 27 SHAKESPEARE *Hamlet* ACT IV SC V [175-186] 61c ACT V SC I [241-266] 66d 67a / *Troilus and Cressida* ACT I SC II [15-18] 397a ACT IV SC III [33-44] 410d-411a / *Winter Tale* ACT IV SC IV [73-108] 508 509a
- 35 LOCKE *Civil Government* CH V SECT 37 33a b SECT 46 51 35a 36a CH XVI SECT 184 68b d
- 37 FIELDING *Tom Jones* 310c
- 38 MONTESQUIEU *Spirit of Law* BK XVIII 128b BK XXI 174b 175a
- 38 ROLLS *Law Inequality* 341a b
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- 40 GIBSON *De Line and Fall* 154d 155a 240 244c
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- 48 MELVILLE *Moby Dick* 138b 130b 385b
- 50 MARY *Capital* 40c-41a 41d 44a 44d 45 58a 60a
- 51 TOLSTOY *War and Peace* BK 198b 203a 206b-c 212a c 230b 232 233b BK VI 241b-c 248b 249a BK X 355b BK X 423d-424a 424c d
- 52 DOSTOEVSKY *The Idiot* BK II 36b-c BK I 147 d BK I 171a
- 54 FREUD *Origin and Development of Psychoanalysis* 4a b / *General Introduction* 510 555a / *Metapsychology* 815c d

1/ Natural signs as the source of meaning in communication / signs thought as the medium through which words signify things

7 PLATO *Cratylus* 104d 114a-c *Seventh Letter* 809c 810d

8 ARISTOTLE *In interpretatione* I [11 4-8] 25a / *Soul* BK I 8 [120<sup>b</sup> 27-42] 652b / *Sense and the Sensible* I [13<sup>a</sup>-17] 674a

18 AUGUSTINE *Christian Doctrine* BK II CH 3 637c d

19 AQUINAS *Summa Theologiae* PART I Q 13 A 1 ANS 62c 63c A 4 ANS and REP 1 65c 66b A 10 REP 5 72c 73c Q 27 A 1 ANS 153b 154b Q 85 A 2 REP 3 453d 455b

20 AQUINAS *Summa Theologiae* PART II Q 93 A 1 REP 2 215b d 216c PART III Q 60 AA 6-8 851b 854d *passim*

31 DESCARTES *Discours de methode* 59c 60b

35 LOCKE *Human Understanding* BK II CH XI SECT 9 145b BK CH XXIII SECT 8 244d BK II CH XI SECT 5 253d 254a CH III SECT 13 257c 258a CH IV SECT 2 60b CH V SECT 13 266d 267a CH XI SECT 24 305b-d

35 BERKELEY *Human Knowledge* INTRO SECT 18 19 410a c

53 JAMES *Psychology* 18b

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2a The first and second imposition of words names signifying things and names misifying names

23 HOBBS *Leviathan* PART I 57b PART I 270a b

2b The first and second intention of a man words signifying things and words misifying ideas

19 AQUINAS *Summa Theologiae* PART I Q 29 A 1 REP 3 162a 163b A 2 ANS 163b-164b Q 9 A 4 ANS 170c 171b Q 85 A 2 REP 2 453d 455b

23 HOBBS *Leviathan* PART I 57d 58a PART IV 270a b

24 RABELAIS *Gargantua and Pantagruel* BK II 79c BK III 150a

35 LOCKE *Human Understanding* BK II CH XI 252d 254c f BK CH XIII SECT 11 257a b CH IV SECT 2 260b CH V SECT 12 266d 267a SECT 14 267b c CH VI SECT 19 273b SECT 48 282b d CH XI SECT 10 302b SECT 24 305b d

45 LAVOISIER *Elements of Chemistry* PAR 40c 53] E *Phology* 127b-128a

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7 PII *Catulus* 85a 114a c / *Theater* IV 500 8 ARISTOTLE *Categoriae* CH I [13 16] 5b / *1st* BK I CH 5 [10f 1-9] 149d [10f 1-9] 150d 151a

19 AQUINAS *Summa Theologiae* PART I Q 13 A 1 2 3 63c 65c 5 N 66b-67d 6 A 1 and N 2 3 67d 68c 68d 71b A 10 72 73 11 REP 3 73 4b Q 29 A 1 REP 3 162b 163b 4 165c 167a Q 31 318b 189 2 4 214b 215b

- 35 LOCKE *Human Understanding* BK II CH XIV  
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- 35 BE KELLEY *Human Knowledge* INTRO SECT  
15 409a b
- 2d Proper and common names
- 8 A TOTLE *Cat go ies* CH 5 [2 II 18] 6a b /  
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*t al Refutat n* CH 22 [ 78<sup>b</sup>38 179 10] 246c /  
*Met phys et* BK VI CH 10 [ 035<sup>b</sup>28-32] 559b  
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- 19 AQUIN *Summa Theologiae* P RT I Q 13  
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- 20 AQUINAS *Summa Theologiae* PART I II Q 9  
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- 22 CHAU ER *Second Nun's Prologue* [ 5 553-  
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- 23 HOB ES *Leviathan* ART I 55b c
- 35 LOCKE *Human Understanding* K I CH I  
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- 31 BERK L *Human Knowledge* INTRO SECT  
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410 c E T 12 437b
- 35 HU C *Human Understanding* s CT VII DIV  
5 507b [fn ]
- 35 ST RVE *Tristram Shandy* 717b 221 351a  
353b
- 38 ROUS S U *I equality* 341b 342b
- 45 L O R *Elements of Chemistry* 4b c
- 53 JAL ES *Physiology* 310a 311 447b 448a
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- 8 AR S OTLE *Physics* K I CH 34 66b c
- 19 AQUIN *Summa Theologiae* PART Q 3  
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A 9 AN 71b 72c Q 3 A REP 5 171c 172b  
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- 23 H E *Letter* P T I 55b c 57a
- 35 LOCKE *Human Understanding* K III HVI II  
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- 38 R U S E U *I equality* 341b
- 31 J *Psychology* 305a 306b 689a
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- 5 ARI TOPHANES *Knights* [960 089] 482a  
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[9 3-935] 575 b / *Plutu* [ -55] 629a d  
6 H R DORUS *History* K 11b-d 21b 22a
- 7 PLATO *Eschymus* 65 84 = / *Cratylus*  
107d 109a / *Phaedrus* 132c 133a 138 141a =  
/ *Republic* BK I 297b 300b / *Crutis* 478c d  
/ *Theaetetus* 520b / *Soph st* 552b-c / *Philebus*  
609d 610a / *Seventh Letter* 809 810b
- 8 ARISTOTL *Topics* BK I CH 15 149d 152a  
CH 18 [108 8 36] 152b-d BK II CH 3 154d  
155d BK VIII CH 3 [158<sup>b</sup>8 24] 215b CH 7  
217 d / *S ph t cal Refutat ons* CH I [165 5-  
13] 227b CH CH 33 [ 8 <sup>b</sup>13 31] 251d / *Heavens*  
BK I CH II [280<sup>b</sup>1-7] 371d 372a / *Met physics*  
BK I CH 9 [99 1-9] 510b BK IV C I 4 [10 6  
29 <sup>b</sup>18] 525c d BK VII CH II [1037<sup>b</sup>5-9] 560c  
BK VIII CH 3 [ 43 29 <sup>b</sup>4] 567d / *Soul* BK III  
CH 2 [425<sup>b</sup>26-426 6] 658a c
- 9 A TOTLE *Parts of Animals* BK II CH 2  
[648 37] H 3 [649<sup>b</sup>2 ] 172d 174b / *Ethics* BK  
V CT I [11 9 8 31] 376b d / *Politics* BK II  
CH 3 456 -457a BK III CH 3 [ 76 8-24] 473a  
/ *Rhetoric* BK III CH 2 [1404<sup>b</sup>38-39] 655b H  
5 657d 658c
- 10 GALEN *Natural Faculties* BK I CH 2 168c
- 18 AUGUSTINE *Christian Doctrine* BK II CH  
6 638a d H 10 640d 641a K I I 657a  
674d
- 20 AQUINAS *Summa Theologiae* P RT Q 60  
A 3 R I 848d 849c
- 23 HOB ES *Leviathan* P RT I 55b 57d 58a  
60c PART II 100b 127a 135 157 PART III  
172a
- 25 MONTAIGNE *Essay* 253c 254a 284d 285a  
517b 519a
- 26 SHAKE PEARE *Tamg of the Shrew* ACT I  
CH I [ 44] 205b / *Two Gentlemen f Verona*  
ACT I SC I [70- 58] 230a d / *Romeo and J l* I  
ACT II s [38 140] 297d 298d / *Richa d II*  
ACT II s [69-99] 328b d / *Julius Ca r*  
A T I [1-36] 568b d
- 27 SHAK ARE *Hamlet* A T V SC I [ 27 149]  
65d 66a
- 30 BACON *Advancement of Learning* 60b c /  
*No um Oga um* BK I A H 43 109d 110a  
APH 50-6 112b 113a
- 31 D C RTES *Meditat ns* H 80d 81a / *Objec*  
*t s nd Repl s* 208c d
- 31 SP NO A *Eth s* ART I ROP 47 s HOL  
390 391a
- 35 L O K : *Human Understanding* K I C I V  
CT 5 131a H XI I s CT II 150d 151a  
s T 8 152a c s T 1 155a b CH XIV  
T 6-42 234d 236 K I CH VI s T 28  
276a b s c 30 3 276d 277 ECT 47-51  
282 283 H V s T 4-6 283c 284b CH  
IX 285 291c CH V SECT 5 292d 293 SE T  
2 297c 298a H VI ECT 3 7 300b 301c  
SECT 9 301d 302 SECT V H II s T 9  
318b 319 H VI SECT I 348b c
- 35 B K L Y *Human Knowledge* T 143  
441 d
- 35 HUM *Human Understanding* CT V D V  
48 470d 471c = T VI D V 6 -63 478b d
- 36 SWIFT *Gull ct* ART V 154a

- (3) *The patterns of meaning in human discourse*  
 3a *Ye bal ambigui ty indefinit ness or multi pl city of mean ng*

- 36 STERNE *Tristram Shandy* 234b 236b 307b 308b  
 37 FIELDING *Tom Jones* 38d 39a 264b  
 38 MONTESQUIEU *Spirit of La is* BK XII 89c d  
 42 KANT *Pu e Reason* 113b = / *P actical Reason* 294b-c 315d 316a / *Scien e of Right* 400d  
 43 FEDERALIST NUMBER 37 120a b  
 43 MILL *Utilitarianism* 447b d  
 46 HEGEL *Philosophy f H story* PART I 218a c  
 50 MARK *Capual* 104d [in 4]  
 ■ JA IES *Psychology* 549b 550a  
 54 FREUD *Inrpretat on of Dreams* 277d 278a / *General Introduction* 517c 518b 540c 541b

- 3b The distinction between univocal and eq : ocal speech

- ARISTOTLE *C tego ies* CH I [111] 5a / *Inrpretat on* CH I [164] 8] 25a / *Topics* BK VI CH IO [148 23-24] 202b c / *Metaphysics* BK I EI 9 [990<sup>b</sup>33-991 8] 509a ■ BK VI CH 3 [1060<sup>b</sup>31 36] 589a  
 19 AQUINAS *S mma Theolog ca* PART I Q I A IO REF I 9c 10c Q 13 A 5 66b 67d A IO 72c 73c Q 29 A 4 ANS and REF 4 165c 167a  
 30 ■ COV *Advancement of Learning* 60b-c  
 31 SPINOZA *Ethics* PART I PROP 17 SCHOL 362c 363c  
 35 LOCKE *Hum n U dersta d g* BK II CH IV SECT 5 131a CH VIII SECT 9 235c d BK III C IV SECT 15 16 288d 289c C I X SECT 5 292d 293a CH XI SECT 3 7 300b 301c BK IV C VII SECT 15 343d 344a CH VIII SECT 11 348b-c  
 35 HLE e *Hum n Understanding* SECT VIII DIV 62-63 478b d  
 36 S E AL *Trist m Shandy* 307b 308b  
 42 H ET *Scien of Right* 400d  
 53 J IES *Psychology* 875b 876a

- 3c The types of equi ocation

- 3c(1) The same word used literally and figuratively metaphors derived from analogies or proportions and from other kind of simile

- 8 ARISTOTLE *Cair i s* CH I [11-6] 5a / *Topics* BK VI C I 2 [137<sup>b</sup>33 140<sup>a</sup>6] 192d 193a  
 9 A I OTLE *Ethics* BK V CH II [135<sup>b</sup>5 14] 387a c / *Rhetor i* BK III CH 2 [141<sup>b</sup>7 140<sup>b</sup>3] 655a d CH 3 [140<sup>b</sup>5] CH 4 [140<sup>a</sup>71c] 657a d 6 [141 2-9] 659a CH 10-11 662c 666b / *Poet i* 21 [1457 1 33] 693a-c C I 25 [1461<sup>a</sup>8 20] 697c d

- 18 AUGUSTINE *Confessions* BK V PAR 24 341a BK VI PAR 6 36c d / *City of God* K X II C I 450 451c BK X C II 21 549d / *Chrm. Doctrin* BK II CH IO 640d 641a BK III CH 657b CH 5 37 650d 674d

- 19 AQUINAS *S mma Theog ca* PART I Q I 9-10 8d 10c Q 3 A I REF I 5-1 b 15b A REF I 15c 16a A 3 REF I 16a d Q 13 A ANS and REF I 63c 64d A 3 64d 65c A ANS and REF 2 67d 68c A IO CONTRARY 72 73c Q 34 A I ANS and REF I 4 185b 187b 67 A I 349d 350b A 2 REF 3 350b 351a 68 A 4 ANS 358b 359b  
 20 AQUINAS *S mma Theologica* PART II Q IO A 2 REF 2 252b 253a PART III Q 8 A I REF 756d 757c  
 23 HOBBS *Leviathan* PART I 55b 59d 61c PART III 176d 177d 181d 193d 195d  
 25 MONTAIGN *Essays* 422c-423c  
 28 HARVEY *Motion of the Heart* 267a b  
 30 BACON *Ad a cement of Learning* 65b c  
 35 LOCKE *Human Understanding* BK III CH I SECT 5 252b c  
 35 BERKELEY *Hum n Knowledge* SECT 141 441d  
 36 SWIFT *Gull cr* PART III 114b 115b  
 40 GIBSON *Decline and Fall* 775c d [n 173]  
 42 KANT *Judgements* 547b 548c  
 53 J IES *Psychology* 380 381a 689a b  
 54 FREUD *General Introduction* 510b-c 511d 513a

- 3c(2) The same word used with varying degrees of generality and specificity the broad and narrow meaning of a word

- 9 ARISTOTLE *Ethics* BK V CH I 2 376a 378c / *Poet i* CH 21 [1457<sup>b</sup>7 16] 893b  
 18 AUGUSTINE *Christian Doctrin* BK III CH 34 35 670c 672d  
 19 AQUINAS *Summa Theologica* PART I Q 2 A 2 ANS 154c 155b Q 6 A 1 319d 350b A 2 REF 3 350b 351 Q 68 A 4 358b 359b Q 17 A 2 ANS 587c 588c  
 20 AQUINAS *Summa Theologica* PART II Q 4<sup>a</sup> A I 2b 2b ART II II Q 9 A 2 ANS and REF 2 424b-425a Q 186 A I ANS 650 651d  
 30 SMITH *Lib of Nations* BK II 123b-d  
 43 MILL *Utilitarianism* 447b d  
 54 FREUD *General Introduction* 509d

- 3c(3) The same word used to signify an attribute and its cause or effect

- 8 ARISTOTLE *Topics* BK I CH 15 [1061<sup>a</sup>9] 149d [106<sup>b</sup>33 107 8] 150d 151a BK V C I 2 [120<sup>b</sup>30-120<sup>a</sup>] 180 / *Metaphysics* BK I CH 2 [1003<sup>a</sup>3 11] 522b BK VII CH 4 [1030<sup>a</sup>11 3] 553a b BK XI CH 3 [1060<sup>b</sup>36 1061<sup>a</sup>] 589a ■  
 19 AQUINAS *Summa Theologica* PART I Q 11 A 5 ANS 66b-67d A 6 ANS and REF 3 67d 68c

- 10 ANS 72c 73c Q 16 A 6 ANS 98b d PART  
1 II Q 20 A 3 REP 7 713c 714c  
20 AQUIN *Summa Theologiae* PART III Q 60  
A 1 ANS 847b 848a
- 3d The significance of names predicated of  
heterogeneous things the analogical as  
intermediate between the univocal and  
the equivocal
- 8 ARISTOTLE *Interpretation* CH 3 [16<sup>b</sup>19 26]  
25d 26a / *Topica* BK I CH 15 149d 152a pas-  
sim / *Sophistical Refutations* CH 7 [169 22 25]  
232d / *Physics* BK I CH 2 [185<sup>b</sup>20]-CH 3  
[187 10] 260 262a BK VII CH 4 [248<sup>b</sup>7 249  
24] 331b 332b / *Metaphysics* BK I C 9  
199<sup>b</sup> 8 24] 511a BK III CH 3 [999<sup>b</sup>22 27]  
517c BK IV CH 2 [1 01<sup>b</sup> 3 34] 522d BK V CH  
6-7 536a 538b CH 9 538c 539a BK VII CH I  
550b d 551a BK V CH I [105<sup>b</sup>1-15] 578d  
579 CH 2 580b d BK XI CH 2 [ 060 36 <sup>b</sup>10]  
588c BK X CH 4-5 599d 601a
- 9 ARISTOTLE *Ethics* BK I CH II [1096 17 29]  
341b-c
- 10 AQUINAS *Summa Theologiae* PART I Q 3 A 4  
REP I 16d 17c A 6 REP I 18 19a Q 4 A 3  
ANS 22b 23b Q 13 AA 5-6 66b 68c A 10  
72c 73 Q 29 A 4 REP 4 165c 167a
- 20 AQUINAS *Summa Theologiae* PART I-II Q 61  
A 1 REP I 34d 55c
- 31 LOCKE *Human Understanding* BK II CH  
VIII SECT 8 152a-c
- 32 KANT *Phor Reas* 181b 182b
- 4 The determination of meaning in science  
and philosophy
- 4a The relation between univocal meaning  
and definition
- 7 PLATO *Sophist* 552b-c
- 8 ARISTOTLE *Categories* CH 5 [3 3 -b9] 7c d  
/ *Posterior Analytics* BK II H 13 [97<sup>b</sup>37-39]  
133c / *Topica* BK IV CH 3 [ 3 27 29] 171d  
H 6 [127 5-6] 177a BK VI P 2 192c 193b  
C 10 [ 48 22 <sup>b</sup>22] 02b 203a BK VII CH 4  
[ 54 4 174] 209 BK V CH 3 [ 58<sup>b</sup>8 59<sup>b</sup>2]  
215b-c / *Soul* BK I CH I [40 <sup>b</sup>1-8] 631 d
- 9 ARISTOTLE *Physics of Animals* BK I CH 3  
165d 167d
- 19 AQUIN *Summa Theologiae* PART I Q 13  
A 1 ANS 62 63
- 23 HOBBS *Leviathan* PART I 56b PART I  
269b-c
- 33 PASCAL *Geometrical Demonstration* 430b  
434a
- 35 LOCKE *Human Understanding* BK II CH XI  
SECT 302d
- 35 BAKELER *Human Knowledge* INTRO SECT  
18 410a
- 43 ΓΕΡΑΛ Τ ΝΥΜΒ R 37 120a b
- 49 DWIN *De Cognitione* 347a-c
- 53 JAMES *Psychology* 121b 122a

#### 4b The dependence of demonstration on univocal terms formal fallacies due to equivocation

- 8 ARISTOTLE *Prior Analytics* BK I CH 34  
66b c / *Posterior Analytics* BK I CH II [77 5-9]  
105d 106a / *Topica* BK I CH 3 [158<sup>b</sup>8 17]  
215b / *Sophistical Refutations* CH 4 [165<sup>b</sup>24-  
166<sup>b</sup>-] 228b 229c CH 24 [179<sup>b</sup>38-180 7]  
217d 248a / *Heaven* BK I CH II [280 1-7]  
371d 372a / *Metaphysics* BK IV CH 4 [1006  
33 <sup>b</sup>12] 525c d
- 9 ARISTOTLE *Rhetoric* BK II CH 24 [1401 13 23]  
650b
- 12 EPICUREUS *Discourses* BK I CH 7 112b 113d
- 19 AQUINAS *Summa Theologiae* PART I Q 1 A  
10 R P I 9c 10c Q 13 A 5 ANS 66b-67d
- 23 HOBBS *Leviathan* PART I 57d 58a PART III  
172a
- 35 LOCKE *Human Understanding* BK III C IX  
SECT 15 16 288d 289c CH V SECT 22 297  
298a CH XI SECT 7 26 301 306d passim
- 35 HUME *Human Understanding* SECT VI DIV  
63 63 478b d
- 36 STERN *Tristram Shandy* 307b 308b

#### 4c The nature and utility of semantic analysis the rectification of ambiguity the clarification and precision of meanings

- 7 PLATO *Protagoras* 52d 57a / *Euthydemus*  
68 d / *Critias* 107 114a c / *Phaedrus*  
120a b
- 8 ARISTOTLE *Categories* CH I [ 13-16] 5b CH 7  
[6<sup>b</sup>26-7<sup>b</sup>14] 11b 12b CH 8 [10 26-<sup>b</sup>11] 15b c /  
*Topica* BK I CH 5 149d 152a CH 18 [108 8-  
36] 152b d BK II CH 3 154d 155d BK V H 4  
[133<sup>b</sup>15 134 4] 184d 185b BK VI CH 10 [ 48  
23-<sup>b</sup>2 [ 202b 203a / *Sophistical Refutations*  
CH 19-23 243d 247a / *Physics* BK VII CH 3  
[245<sup>b</sup>9 246 4] 329 b / *Heaven* BK I CH I  
371d 372d CH 12 [281<sup>b</sup> 15] 373a b / *Meta-  
physics* BK I CH 9 [992<sup>b</sup>18 24] 511a BK IV  
C 14 [ 006 33 <sup>b</sup>4] 525 d BK V 533a 547d  
BK IX CH 7 [1 49 9 <sup>b</sup>1] 574d 575a / *Soul* BK  
II CH 4 [1 6<sup>b</sup> 25] 647a
- 9 ARISTOTLE *Ethics* BK I CH I [ 129 18 31]  
376b d
- 10 GALILEO *Natural Philosophy* BK I CH I 167a b
- 12 EPICTETUS *Discourses* BK I H 7 122d 123
- 18 AUGUSTINE *Christian Doctrine* BK I 65  
674d
- 19 AQUINAS *Summa Theologiae* PART I QQ  
7 43 153a 237a passim PART II Q 1  
AN 720d 721c
- 20 AQUINAS *Summa Theologiae* PART I I Q  
49 A 1b 2b
- 23 HOBBS *Leviathan* PART I 54c 58 58d 60  
60 H T II 157c d H R V 269b 272b  
273a b 274a b
- 30 BACON *Advancement of Learning* 60b-c  
63 b



NEW TEST MENT *Matth* 6 6 30 / *Luk*

12 24 28 / *Romans* 18

6 THU VIDDES *Pel po nestian War* BK III  
438d-439

12 LU TIUS *Nature of Th ngs* BK II [539-660]

22c 23b BK V [110-145] 62c 63a

12 E CTETUS *D co rries* K I CH 16-17  
121d 124a BK III CH I 177a c

12 AU ELIUS *Meduat ns* BK VII SECT 28  
310

16 K FLER *Ept me* BK IV 853b-854a 860a /  
*H rmon s of the World* 1009b 1010a 1049b-

1050a 1061a 1080b-1085b passim

18 AUGUSTINE *City of God* K XI CH 4 28  
335c 338d K XVI ch 26 438c-439a

10 AQUINAS *Summa Theologica* PART I Q I A

10 AN AND R P I 9c 10c Q 3 A I REP I-5 14b-

15b Q A 3 R P 2 3 52 53b Q I 3 A 2

63c 64d A 4 AN 65c 66b Q 27 A I ANS

153b-154b Q 34 185a 189a Q 47 A ANS

and REP 2 256a 257b Q 65 A I REP 3 339b

340b Q 103 A I ANS 528b 529a

20 AQUINAS *Summa Theologica* PA T III Q 12

A 3 REP 2 778b-779a Q 60 A 2 ANS and REP

I 848a d A 5 REP I 850b 851b PART I I

SUPPL Q 92 A 2 1032b 1034b

21 DAN E *D ine Comedy* PARADISE XXVIII

[1, 8] 148d 149

23 HO RES *Les than* PART 78d 79a 81a-c

24 M TAIGN E *ys* 212a-c

28 HARV Y O *Animal G eration* 421d 490d

494a esp 491a b 492c 493a

30 BACON *Ad a ceme i of Lear* g 2c 4c 38a

41b-d / *New Atla us* 203a b

32 M LT N *Parad e Lost* r VIII [114-130]

234b 235a BK IX [780-794] 264b [990-1004]

269 BK XI [181 207] 303a

33 PA E L *Penseses* 643-646 290b 291b 652

657 292a 293a 670 295a b 675 296b 297

693-736 301b 317b

35 B RK LBY *Human An ledge* BK T 32

418d-419a s CT 146 54 442 444b p m

esp SECT 148 442b d

37 FIELDING *Tom J nes* 186c d

40 G M OV *D line a d Fall* 81d 346d 347a

42 HANT P re R on 187 190a

46 H CEL *Ph los phy of Hi story* ART I 228a c

235d 236 252a 255b ART 263d 265

266 267a 268b 271c

47 GOETHE *F ust* PART I [343a 346b] 84a b

51 TOLST Y *W a a d Pea* BK VI 248d 249a

11 S pe n tur l sign om n port nts v ta

t oas dre m mir cles

OLD T YAKEN *Gen s s* 4 6 esp 4 21 5

9 8 17 28 I 22 37 40 a / *Exod*

3 4 9 7 17 p m 3 18 32 5 6 4 34-

38-(D) *Ex d* 3 4 9 7 17 pa m 3 18

32 15 6 4 32 36 / *Number* 9 5 23

16-17 2 13 2 6 9-1 / *Deuter* my

4 9-4 3 -39 5 22 7 6 20-5 7 7 23

20-11 9 13 -5 8 29 9 / *J shu* 3-4

5 13-6 10 12 14-(D) *Josue* 3-4 5 13-

6 2 0 14 / *J dge* 11 1 4 36-40 7 13

15 13 / *I S nuel* 10 1 16 2 12 20 28-

(D) *I Ks gs* 10 1 16 12 12 20 28 / *I K gs*

13 4-6 17 18 6-39 esp 18 30-39 19-(D)

*III Ks gs* 13 4-6 17 18 16-39 esp 18 30-39

19 / *II Ks gs* 1-6 passim 13 20-21 20 1 11-

(D) *IV K ngs* 1-6 passim 13 20-21 20 1 11 /

*II Chro cles* 3 9-22 esp 32 21 2-(D) *II*

*Pa alpomenon* 31 9-22 esp 32 21 2 / *Job*

4 13 21 38 1-42 8 / *Psalms* 105 esp 105 16-

41 135 8 1 -(D) *Psalms* 104 c p 104 16-41

134 8 12 / *Isaiah* 6 7 0-16 38 1-8-(D)

*Is s* 6 7 10-16 38 1-8 / *Jeremiah* 32 11 4

-(D) *Jeremiah* 32 6-24 / *Ezeki* passim

esp 1-3 11 22 24 40 1-48 35-(D) *Ex hel*

passim esp -3 11-22 24 40 1 48 35 /

*Daniel* -12 passim-(D) *Daniel* 2 1-3 23

pas m 3 91 12 13 p s m / *Hosca* 1-3-(D)

*Osee* 1 3 / *Amos* 7-8 / *Jonah*-(D) *Jo as* /

*Ze bariah* 1-6-(D) *Zacharias* -6

APOCRYPHA *Rest of Esler* 10-11-(D) OT

*Esther* 10 4 11 12 / *Bel and Drag n* 30-42-

(D) OT *Daniel* 14 30 4 / *II Ma cabe s*

1 18 22 5 11 17-(D) OT *II Ma habees*

8 15 11-17

NEW TESTA LENT *Matthew* p s m esp 2 21

2 12-3 2 9-23 8 1 17 8 23-9 8 9 18-34

1 1 1 2 29 12 38 40 4 3 33 25-22 16

4 17 -8 17 14-20 20 29-34 / *Mark* p s m

esp 1 23 2 5 1-43 7 24-8 26 9 1-9 9 6-

29 1 46-52 16 16-8 / *Luk* passim c p

1 5-66 4 33-5 26 7 3 8 22-56 9 28 43

11 16 11 29 4 -6 7 11-19 8 35-43 /

*J hn* passim esp 43 11 2 18 2 3 14 8

4 46-54 5 36 6 3 9 41 11 1-48 1 27 3

12 37-40 20 1-9 / *Acts* passim, esp 2 1 24

3 2 11 5 5-24 7 55-56 8 6-8 8 13 9 3-8

9 33 42 0 1 48 13 9-12 14 7 18 9

19 20 2 9-1 28 12-10 / *I C mth a s*

1 2 4 / *Hebrews* 2 3 4 / *Re el tion*-(D)

*Ap h p c*

4 HOMER *Ilad* K I [33 100] 3b-4b K II [

83] 10 d [3 1-33a] 13 b K V II [167 83]

52d 53 [45 25a] 53 d K VII [95 5]

84a d / *Odys* BK II [46- 07] 189 190b

BK IV [787-841] 207a d K XVII [54 55]

282d BK X K [5 9-58] 294c 295a, K XX

[9] 297 11 [240-246] 298c [345-357]

299d K XX V [5 0-548] 322c d

5 A HYLLO *Per ant* [76- 3] 17a / *Seten*

*Ag nst Th be* [24 29] 27b / *P methe s*

*B und* [484 499] 45a [645-668] 46d-47a /

*Agamem n* [104 159] 53a d / *Ch phor c*

[514-552] 75a c

5 S HO KS O *d pus th* K I g [976-986] 108b

/ *O d ho ant C lo us* [1447 666] 127b 129b

/ *Antigon* [988 97] 139c 140 / *El i a*

[404-5] 5159b-160a

5 EURIP S *Iph gen a Am g the T urn* [42-

11] 411 d [1 34 83] 422b-c

5 AR TO HAN *Bnd* [7 8-72] 551d 552a



(5 Symbolism : i theology and religion 5b Super-natural : gn omens portents : i sitat ons, dreams m racles)

- 6 HERODOTUS *History* BK I 4d 8a b 12b d 17a B 18b 20d 21a 38a b 39c 40a BK II 60d 61b 79a c 83b c 86c 87a BK III 90d 91a 95d 116a b BK IV 124d 125a 126d 127a 135b c 138 B 150b d 154c d 155b = BK V 170 d 176c d 183d 184a BK VI 190c d 200d 201a 204b c 208b BK VII 219a c 238d 239a BK VIII 266b d 267a 270c 271a 283d BK IX 289d 290a 307c 309d 310a 313d 314a
- 7 PLATO *Euthydemus* 66a / *Apology* 207b c 211a b / *Timaeus* 467a =
- 8 ARISTOTLE *Prophes* : g 707a 709a =
- 9 ARISTOTLE *History of Animals* BK III CH II [518 3 36] 43a CH 20 [522 13 19] 47a b
- 12 LUCRETIVS *Nature of Things* BK V [1161-124] 76b 77b BK VI [43-79] 80d 81b [379-422] 85b d
- 12 CRICTATUS *Dissourses* BK I CH 17 123c 124a BK III CH I 177a b
- 13 VIRGIL *Aeneid* BK I [387 401] 113b 114a BK II [16 233] 128b 130b [679-704] 143b 144a BK III [90-101] 149b 150a [135 191] 150b 152b [388 393] 157b 158a [523-547] 161b 162a BK VI [190-211] 216a B BK VII [59-80] 237b 238a BK VIII [26 89] 259b 261b [520-54] 273a B BK XII [244 262] 360b-361a
- 14 PLUTARCH *Numa Pompil* s 52b c / *Popli cola* 82a b / *Timoleon* 198c d / *Pelopidas* 239d 240c / *Ar tid* s 268a d / *Sulla* 371d 372c / *La cellus* 404d 405a 405c / *Agel* : s 483a b / *Alex nder* 568a B / *Demosithenes* 698b 699a / *Dion* 781d 782a / *Ma cus Brutus* 818a b 822b
- 15 TACITUS *Annals* BK I 9a b BK II 26c 27b BK IV 79b BK VI 95d 96a BK XI 105c BK XII 112d 113a 119b 124b BK XIV 149b c K XV 168d 169a / *Histor* : s BK I 206a 212d 213a BK II 228a B 235a c BK III 256d BK IV 93a 294a
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## ADDITIONAL READINGS

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## Chapter 86 SIN

### INTRODUCTION

THE sin of Satan and the sin of Adam are among the great mysteries of the Christian religion. Satan is highest among the angels, the first of God's spiritual creatures. He is only less than God in the perfection of his nature. Adam is created with supernatural graces and gifts; his immortal body is completely responsive to his spirit; his appetite in all things is submissive to his reason; and his reason is turned toward God according to the original justice which harmonized his faculties and the elements of his nature.

The only evil latent in either Satan or Adam would seem to reside in the privation of infinite being, power, and knowledge. But this is not a moral evil in them; it is neither a sin nor a predisposition to sin. Hence the only cause of their sinning is if God himself does not predestine them to sin; must be a free choice on their part between good and evil. If God positively predestines them to sin, then they would seem to be without responsibility, and so without sin. If they are not predetermined to evil—if except for the weakness of being finite they are without positive blemish—how does the conflict arise in them which opens the choice between good and evil and impels them almost against the inclination of their natures away from good and toward evil?

In Milton's *Paradise Lost*, God says of Adam: I made him just and right, sufficient to have stood, though free to fall. Of Satan and fallen angels as well as of Adam, God observes:

They ther for s to ght b l g d  
So were c e t e d nor can ju dly acc se  
Th make o th making m thir F te  
As f P dest nat on over uld  
Th r w l d pos d by absol te D c e  
Of hgh for knowl dg they th m l e s d reed  
Th own rev lt not I if I so cknew  
Fo ck owledge had no nfl ence n the r fault  
Which had no less pc d certain unforekn wn

Yet there is a difference between Adam and Satan. The fallen angels, by their own suggestion, fell; self-tempted, depraved. Satan, having sinned, becomes man's tempter. Man falls deceived by the other first. Man therefore shall find grace; the other none.

As Satan approaches the Garden of Eden to work his will on man, he contemplates his plight. He does not deny his sin; he does not repent it; he does not seem fully to understand it. Thus Milton has him speak:

O thou that with surpassing Glory crowned  
Lo'kest from the sole Dominion like the God  
Of this new World, at whose sight all the Starrs  
Hide their diminished heads to thee I call  
Be thou with no friendly voice and add thy name  
O Sun, to tell thee how I hate thy beams  
That bring to my remembrance from what state  
I fell, how glorious once above thy Sphere  
Till Pride and worse Ambition threw me down  
Warring in Heav'n against Heav'n matchless King  
Ah, where feel he deserved no such return  
From me, whom he created what I was  
In that bright eminence, and with his good  
Upbraided none; now his service hard  
What could be less than to afford him praise  
The exact recompense and pay him thanks  
If I would! yet all his good prov'd ill in me  
Adversity brought but malice lifted up so high  
I disdain subjection and thought on steep higher  
Would set me highest, and in a moment quit  
Th' debt I owe of endless gratitude  
Sins thus multiply pay us still to do  
O had his powerful Ordinance  
Made me for ever Angelical and good  
Th' happiness I bound to hope beyond  
Ambition. Yet why not? some there Power  
As great might have a pride and me there would mean  
Drawn to his part, but other Powers as great  
Fell not, but stand unshaken firm with us  
Of whom with us to all temptations made  
He said, though the same free Will and Power attend?  
Thou hadst them both, though thou now whett to accuse  
But Heaven's fire, Lo! dealt quillily to thee?  
Be thou his Love, accuse a lover or hate  
Thy malice deals thee love  
Nay, you seduce them, cease against his thy will

Chose freely what it no way so justly rues  
 Me miserable! which way shall I flee  
 Infinite wrauth and infinite despaire?  
 Which way I flee is Hell my self am Hell  
 And in the lowest deep a lower deep  
 Still threatening to devour me opens wide  
 To such the Hell I suffer seems a Heav'n  
 O then at last relent is there no place  
 Left for Repentance nor for Pardon left?  
 None left but by submission and that word  
*Disdain* forbids me and my dread of shame  
 Among the spirits beneath whom I seduce  
 With other promises and other vaunts  
 Then to submit boasting I could subdue  
 Th' Omnipotent

Before Satan approaches Eve Adam reminds her of their debt of obedience saying that God requires

From us no other service than to keep  
 This one thus easie charge of all the Trees  
 In Paradise that beare delicious fruit  
 So various not to taste that onely Tree  
 Of knowledge planted by the Tree of Life  
 So neer grows Death to Life but ere Death is  
 Some dreadful thing no doubt for well thou know'st  
 God hath pronounc'd it death to taste that Tree  
 The only sin of our obedience I fit  
 Among so many signes of power and rule  
 Conferd upon us and Dominion given  
 Over all other Creatures that possess  
 Earth Aire and Sea Then let us not think hard  
 One easie prohibition who enjoy  
 Fee leave so large to all things else and choice  
 Unlimited of manifold delights

The temptation to disobey first moves Eve in a dream in which the apparition of an angel speaks of the forbidden fruit

as orderly fit  
 For Gods yet able to make Gods of Men  
 And why not Gods of Men since good the more  
 Communicated more abundant grows  
 The Author not impair'd but honour'd more?

Here happy Creature the vision says to her

If peer thou mayst be worthier can't not be  
 Than this and be henceforth among the Gods  
 Thy self a Goddess not to Earth confin'd  
 But sometimes in the Air as yet sometimes  
 Ascend to Heaven by merit thine and see  
 What life the Gods there and such live thou.

Later when Satan in the guise of the Serpent actually addresses Eve he argues in the same vein that as he by tasting of this fruit speaks as a man so Eve and Adam if they too partake shall be as Gods knowing both Good

and Evil as they know. Eve succumbs and as Milton tells the story Adam knowing fully the evil of his act joins Eve in disobedience not from envy of the gods but out of love for her willing to die because unwilling to live without her

Willing to incur divine displeasure for her sake or Death

he scrupled not to eat  
 Against his better knowledge not deceiv'd  
 But fondly overcome with female charm  
 Earth trembled from her entrails as a sin  
 In pangs and Nature gave a second groan  
 Slowly and muttering Thunder som' what  
 drops  
 Wept at completing of the mortal sin  
 Original

IN THE POET'S expansion of the third chapter of Genesis the basic elements in the Judeo-Christian conception of sin seem to be plainly accented the pride and envy which move Satan and Eve the disobedience which results from the disorder of Adam's loving Eve more than he loves God In the *Divine Comedy* another great poem of sin and salvation Adam speaks to Dante in Paradise and tells him that

the tasting of the tree was not by itself the cause of so great an evil but only the overpassing of the bound Earlier Beatrice explains why in order to redeem man from sin the Word of God assumed human nature—the nature which has estranged itself from its Maker She tells Dante that this nature thus united with its Maker was pure and good such as it was created but by itself it had been banished from Paradise because it turned aside from the way of truth and from its own life Man can fall from his nobility by sin alone which disfranchises him and makes him unlike the Supreme Good so that he is little illuminated by its light and to his dignity he never returns unless where fault empties he fills up with just penalties against evil delight

In both the pagan and the Christian conceptions of sin man's pride and his disobedience of divine commandment are usually connected with the very notion of sin The heroes of the Greek tragedies exhibiting the tragic fault of pride seem to forget that though they sin even with gods they are only men subject to laws they cannot disobey without catastrophe In

the *Iliad* Phoenix cautions Achilles to battle with your pride and beat it cherish not your anger for ever the might and majesty of heaven are more than ours but even heaven may be appeased and if a man has sinned he prays the gods and reconciles them to himself by his piteous cries

In pride and disobedience we find the deep disorder of love which lies at the heart of sin. Pride is self love in excess of what the self deserves. Disobedience as in the case of Milton's Adam may be prompted by a love which too exceeds the worth of the object loved. The measure of that worth or the bounds put upon the love of self or other is set by the Supreme Good which ordering all other goods should also order our loves in proportion to their goodness.

This seems to be the central insight of the *Dune Comedy*. It is given a summary statement in Purgatory where Virgil explains how love is the root both of virtue and of sin. Neither Creator nor creature he says to Dante was ever without love either natural or of the mind and thus thou knowest. The natural is always without error but the other may err either through an evil object or through little or too much vigor. While love is directed on the primal goods and with due measure on the secondary it cannot be the cause of ill delight. But when it is bent to evil or runs to good with more zeal or with less than it ought against the Creator his own creature is working. Hence thou canst comprehend that love is of necessity the seed in you of every virtue and of every action that deserves punishment.

Dostoevsky offers us further thoughts concerning the relation of love and sin. In the *Brothers Karamazov* Father Zossima makes lack of love the punishment as well as the substance of sin. To those who ask What is Hell? Father Zossima replies I maintain that it is the suffering of being unable to love. They talk of hell fire in the material sense I don't go into that mystery and I shun it. But I think if there were fire in the material sense they would be glad of it for I imagine that in material agony their still greater spiritual agony would be forgotten for a moment. Oh there are some who remain proud and fierce even in hell in spite of their certain knowledge and con-

templation of the absolute truth there are some fearful ones who have given themselves over to Satan and his proud spirit entirely. For such hell is voluntary and ever consuming they are tortured by their own choice. For they have cursed themselves cursing God and life.

To avoid sin the only positive commandment according to Father Zossima is to love in accordance with God's love. Love a man even in his sin he counsels for that is the semblance of Divine Love and is the highest love on earth. And let not the sin of men confound you in your doings. Fear not that it will wear away your work and hinder its being accomplished. There is only one means of salvation then take unto yourself and make yourself responsible for all men's sins that is the truth you know friends for as soon as you sincerely make yourself responsible for everything and for all men you will see at once that it is really so and you are to blame for every one and for all things. But throwing your own indolence and impotence on others you will end by sharing the pride of Satan and murmuring against God. Of the pride of Satan what I think is this it is hard for us on earth to comprehend it and therefore it is so easy to fall in to error and to share it even imagining that we are doing something grand and fine.

In the disorder of love which leads to sin sin is itself enjoyed for its own sake and the disobedient act is pleasant because it is forbidden. In that also there is the pride of supposing one's self to be a law unto one's self. In his *Confessions* concerned most immediately with his own sinfulness Augustine reflects upon the pears he stole in his youth not as he says from any desire to enjoy the things I stole but only the stealing of them and the sin. He asks himself What was it then that in my wretched folly I loved in you O theft of mine deed wrought in that dark night when I was sixteen? He had no need of the pears. Once I had gathered them he says I threw them away tasting only my own sin and savouring that with delight for if I took so much as bit of any one of those pears it was the sin that sweetened it.

He keeps on asking himself what it was that attracted him in that theft that it was that



he enjoyed in that childish act of stealing. Perhaps he finally answers it was the thrill of acting against Your law—at least in appearance since I had no power to do so in fact the delight a prisoner might have in making some small gesture of liberty—getting a deceptive sense of omnipotence from doing something forbidden without immediate punishment. I was that slave who fled from his Lord and pursued his Lord's shadow. O rottenness. O monstrousness of life and abyss of death! Could you find pleasure only in what was forbidden and only because it was forbidden?

IN THE PAGAN AND JUDAEO-CHRISTIAN conceptions of sin the fundamental meaning seems to depend upon the relation of man to the gods or to God whether that itself be considered in terms of law or love. The vicious act may be conceived as one which is contrary to nature or reason. The criminal act may be conceived as a violation of the law of man injurious to the welfare of the state or to its members. Both may involve the notions of responsibility and fault. Both may involve evil and wrongdoing. But unless the act transgresses the law of God it is not sinful. The divine law which is transgressed may be the natural law that God instills in human reason but the act is sinful if the person who commits the act turns away from God to the worship or love of other things.

To disbelieve in God in divine law and divine punishment is also to disbelieve in sin—at least in the sense in which religious men have distinguished between saints and sinners between the righteous and the wicked in the eyes of God. There are only two kinds of men writes Pascal the righteous who believe themselves sinners the rest sinners who believe themselves righteous.

Those who reject the religious meaning of sin do not deny the wide prevalence of a sense of sin nor do they deny that many men suffer remorse for transgressions which they suppose to be evil in God's eyes but with Freud they interpret these feelings of guilt in terms of natural causes. They hold that the person who is tormented by conscience suffers from an illusion concerning the true nature of his guilt. When the sense of sin is intensely active and is in addition apparently unexplained by the

character and conduct of the person the guilt feelings according to the Freudian view take on the attributes of pathological distortion and become part of the symptomology of the neuroses. There is no question about the sincerity of the person who is thus agonized but only about the true causes of the agony.

When one asks how a sense of guilt arises in anyone Freud says: one is told something one cannot dispute people feel guilty (pious people call it sinful) when they have done something they know to be bad. But then one sees how little this answer tells one. What accounts for the judgment a man makes of himself as good or bad? Freud's answer is that what is bad is to begin with whatever causes one to be threatened with a loss of love because of the dread of this loss one must deny from it. That is why it makes little difference whether one has already committed the bad deed or only intends to do so.

The external authority of the father and through him of society becomes according to Freud internalized by the development of a super ego. The manifestations of conscience are then raised to a new level to be strict one should not call them conscience and sense of guilt before this. At this second stage of development conscience exhibits a peculiarity which was absent in the first. That is the more righteous a man is the stricter and more suspicious will his conscience be so that ultimately it is precisely those people who have carried holiness farthest who reproach themselves with the deepest sinfulness. A relatively strict and vigilant conscience is the very sign of a virtuous man and though saints may proclaim themselves sinners they are not so wrong in view of the temptations of instinctual gratifications which they are peculiarly liable—since as we know temptations do but increase under constant privation whereas they subside at any rate temporarily if they are sometimes gratified.

Freud applies his theory of the origin of feelings of guilt (in the dread of authority first and later in the dread of the super-ego) to the religious sense of sin. The people of Israel he writes believed themselves to be God's favorite child and when the great Father hurled visitation after visitation upon

th m it still never shook them in this belief or caused them to doubt His power and His justice they proceeded instead to bring their prophets into the world to declare their sinful-ness to them and out of their sense of guilt they constructed the stringent commandments of their priestly religion

In general Freud thinks the great religions have never overlooked the part played by the sense of guilt in civilization What is more they come forward with a claim to save mankind from this sense of guilt which they call sin We have drawn our conclusion from the way in which in Christianity this salvation is won—the sacrificial death of one who therewith takes the whole of the common guilt of all upon himself about the occasion on which this primal sense of guilt was first acquired The conclusion referred to is developed in two of Freud's works which are devoted to the consideration of religion and sin—the *Future of an Illusion* and *Totem and Taboo* In the latter of these books Freud tells us he had first expressed a suspicion that perhaps the sense of guilt in mankind as a whole which is the ultimate source of religion and morality was acquired in the beginning of history through the Oedipus complex

OTHER WRITERS who approach the problem of sin in legalistic rather than psychological terms either make no distinction between crime and sin or make the distinction without referring to God Spinoza for example prefaces his explanation of the meanings of praise and blame merit and crime with a discussion of the difference between the natural and civil state of man In a state of nature he says no one is bound by any law to obey any one but himself Hence in a natural state sin cannot be conceived but only in a civil state where it is decided by universal consent what is good and what is evil and where everyone is bound to obey the State Sin therefore is nothing but disobedience which is punished by the law of the State alone

Though Hobbes does not identify crime and sin his distinction between them does not seem to be based on the contrast between the civil law and the divine law unless the latter is equated with the law of nature A crime is a

sin he writes consisting in the committing (by deed or word) of that which the law forbiddeth or the omission of that which it hath commanded So that every crime is a sin but not every sin a crime To intend to steal or kill is a sin though it never appear in word or fact for God that seeth the thoughts of man can lay it to his charge but till it appear by something done or said by which the intention may be argued by a human judge it hath not the name of crime

From this relation of sin to the law Hobbes continues and of crime to the civil law may be inferred first that where law ceaseth sin ceaseth But because the law of nature is eternal violation of covenants in gratitude arrogance and all facts contrary to any moral virtue can never cease to be sin Secondly that the civil law ceasing crimes cease for there being no other law remaining but that of nature there is no place for accusation every man being his own judge and accused only by his own conscience and cleared by the uprightness of his own intention When therefore his intention is right his fact is no sin if otherwise his fact is sin but not crime

The more strictly religious conception of sin seems to be exemplified by Pascal's remark that all that God does not permit is forbidden and that sins are forbidden by the general declaration that God has made that He did not allow them Whatever God does not permit we ought to regard as sin for the absence of God's will which is all goodness and all justice renders it unjust and wrong

With the precision of a theologian in these matters Aquinas defines the peculiar type of evil which is sin Evil he writes is more comprehensive than sin as also is good than right Now in those things that are done by the will the proximate rule is the human reason while the supreme rule is the eternal law When therefore a human act tends to the end according to the order of reason and of the eternal law then that act is right but when it turns aside from that rectitude then it is said to be a sin Elsewhere he says that every created will has rectitude of act only so far as it is regulated according to the divine will Thus only in the divine will can there be no sin

whereas in the will of every creature considered according to its nature there can be sin

THE THEOLOGICAL DISCUSSION of sin involves a tremendous range of topics and problems as significant as they are subtle. The dogma of original sin for example raises questions not only about the cause and character of Adam's transgression but also about the punishment which is visited upon the children of Adam in perpetuity and about the conditions under which man can be reclaimed from his bondage to sin both original and actual or personal.

There seems to be some resemblance between the Christian doctrine that Adam's sin merits a penalty to be paid by all subsequent generations and the Jewish doctrine of the collective responsibility of the people of Israel for the sins of their ancestors even unto the third and fourth generation. But the points of difference appear to be more fundamental than the similarity.

In the first place the sins of the fathers from which later generations suffer are the individual sins of men whose natures are predisposed to sin as Adam's before the fall was not. In the second place the punishment is visited not upon the whole human race but only upon the Chosen People and in the form of temporal scourges rather than in a corruption of human nature itself.

Furthermore the Hebrew prophet Ezekiel questions the justice of collective responsibility.

What mean ye? he asks

that ye use these proverbial sayings of Israel saying The fathers have eaten sour grapes and the children's teeth are set on edge?

As I live saith the Lord God ye shall not have occasion to say more to use these proverbs in Israel.

The son that sinneth shall die. The son shall not bear the iniquity of the father neither shall the father bear the iniquity of the son. The righteousness of the righteous shall be upon him and the wickedness of the wicked shall be upon him.

But if the wicked will turn from all his sins that he hath committed and keep all my statutes and do that which is lawful and right he shall surely live he shall not die.

All his transgressions that he hath committed they shall not be mentioned unto him in his righteousness that he hath done he shall live.

Have I any pleasure at all that the wicked should die? saith the Lord God and not that he should return from his ways and live?

But when the righteous turneth away from his righteousness and committeth iniquity and doeth according to all the abominations that the wicked man doeth shall he live? All his righteousness that he hath done shall not be mentioned in his trespass that he hath trespassed and in his sin that he hath sinned in them shall he die.

According to Christian teaching the justice of individual punishment for the sins which individuals commit in their own lifetime does not apply to the penalty which all men must pay for the sin of Adam. Wherefore as by one man sin entered into the world St Paul writes to the Romans

and death by sin and so death passed upon all men for that all have sinned.

(For until the law sin was in the world but sin is not imputed when there is no law.)

Nevertheless death reigned from Adam to Moses even over them that had not sinned after the similitude of Adam's transgression who is the figure of him that was to come.

But not as the offence so also is the free gift. For if through the offence of one many be dead much more the grace of God and the gift by grace which is by one man Jesus Christ hath abounded unto many.

And not as it was by one that sinned so is the gift for the judgment was by one to condemnation but the free gift is of many offences unto justification.

For if by one man's offence death reigned by one much more they which receive abundance of grace and of the gift of righteousness shall reign in life by one Jesus Christ.)

Therefore as by the offence of one judgment came upon all men to condemnation even so by the righteousness of one the free gift came upon all men unto justification of life.

For as by one man's disobedience many were made sinners so by the obedience of one shall many be made righteous.

The Christian doctrine of original sin thus appears to be closely connected with the Christian doctrine of the need for a divine saviour—God Himself become man to redeem man from the taint of sin and through the sacraments He instituted to provide the instruments of healing grace and the means of repentance for and absolution from both original sin and the individual's own personal sins.

The understanding of the sacraments the theory of grace in relation to the original and fallen nature of man the issue concerning grace and good works, or God's justification and man's merit in the achievement of sanctity and salvation the distinction between the everlasting perdition of Hell and the expiatory punishments of Purgatory—all these fundamental theological problems are involved in the consideration of sin and its consequences both temporal and eternal

Some of these problems are discussed in the chapters on MAN ANGEL, IMMORTALITY and PUNISHMENT Other matters such as the classification of sins according to the distinction between spiritual and carnal mortal and venial and the enumeration of the various species of both mortal and venial sin in the order of their gravity are problems of moral theology Though they belong primarily to this chapter they are also related to the classification of virtues and vices especially to the theory of the theological virtues and among the theological virtues especially to charity which is the principle of sanctity even as pride is the principle of sin

Of all points in the consideration of sin the distinctness between original and acquired sin is perhaps the most important not only because inherited sinfulness is conceived as the predisposing cause of all other sins but also because the human nature corrupted by sin is conceived as fallen below the perfection of a purely natural man as well as below the state of grace in which Adam was created As Adam had gifts which made him superior to the natural man—immortality infused knowledge and freedom from error immunity from concupiscence exemption from labor and servility—so the children of Adam cast out of Eden have ingrained weaknesses which make them unable to achieve the goods or attain the ends proportionate to their human nature

According to some theologians the purely natural man without either the gifts of grace or the wounds of sin has never existed It is this mystery of man having natural aspirations which exceed the weakened powers of his fallen nature that Pascal seems to contemplate in all his observations on the greatness and wretchedness of man—the astonishing contradic-

tions which he thinks only the Christian religion explains In the state in which men now are he writes there remains to them some feeble instinct of the happiness of their former state and they are plunged in the evils of their blindness and their lust which have become their second nature

As the result of original justice Aquinas writes the reason had perfect hold over the lower parts of the soul while reason itself was perfected by God in being subject to Him Now this same original justice was forfeited by the sin of our first parent so that all the powers of the soul are left as it were destitute of their proper order whereby they are naturally directed to virtue This destitution is called a wounding of nature In so far as the reason is deprived of its order to the true there is the wound of ignorance in so far as the will is deprived of its order to the good there is the wound of malice in so far as the irascible is deprived of its order to the arduous there is the wound of weakness and in so far as the concupiscible is deprived of its order to the delectable as moderated by reason there is the wound of concupiscence Accordingly these are the four wounds inflicted on the whole of human nature as a result of our first parent's sin

Aquinas rejects the supposition that the entire good of human nature can be destroyed by sin arguing that what sin diminishes is the natural inclination to virtue which is befitting to man from the very fact that he is a rational being But sin cannot entirely take away from man the fact that he is a rational being for then he would no longer be capable of sin

Other theologians take a more extreme view than Aquinas and Augustine They attribute depravity rather than weakness to human nature as a consequence of original sin On the Calvinistic theory Mill writes the one great offense of man is self will Under the maxim that whatever is not a duty is a sin men are left with no choice Human nature being radically corrupt Mill continues there is no redemption for any one until human nature is killed within him But according to Augustine and Aquinas original sin does not deprive the individual man entirely of the power to estab-

lish his worth though it puts him in need of God's help to be worthy of salvation. Between the one extreme which holds that men can be saved by God's grace alone and the other extreme which supposes that men can win salvation by the merit of their own good works, Augustine and Aquinas try to take the middle position according to which neither grace without good works nor good works without grace will avail.

## OUTLINE OF TOPICS

- 1 The nature of sin violation of divine law disorder in man's relation to God
- 2 The kinds and degrees of sin
  - 2a The distinction between original and actual sin
  - 2b The distinction between spiritual and carnal sin
  - 2c The distinction between mortal and venial sin
    - (1) The classification and order of mortal sins
    - (2) The classification and order of venial sins
- 3 The doctrine of original sin
  - 3a The condition of Adam before sin his supernatural state of grace his preternatural gifts
  - 3b The sin of Adam
  - 3c The nature of fallen man in consequence of Adam's sin
  - 3d The need for a mediator between God and man to atone for original sin
  - 3e The remission of sin baptism the state of the unbaptized
- 4 Actual or personal sin
  - 4a The relation of original sin to actual sin
  - 4b The causes and occasions of actual sin
  - 4c Pride as the principle of sin the tragic fault of *hybris*
  - 4d The consequences of actual sin the loss of charity and grace
  - 4e The prevention and purging of sin purification by sacrifice the sacrament of penance contrition confession and absolution
- 5 The remorse of conscience and feelings of guilt the psychogenesis and pathological expression of the sense of sin
- 6 Guilt and the punishment of sin
  - 6a Man's freedom in relation to responsibility and guilt for sin divine predestination or election
  - 6b Collective responsibility for sin the sins of the fathers
  - 6c The temporal punishment of sin divine scourges
  - 6d The eternal punishment of sin the everlasting perdition of the unrepentant in Hell
  - 6e The purifying punishments of Purgatory
- 7 Grace and good works in relation to salvation from sin

## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOWER *Il d BK 11* [265 283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53JA *ies Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symp symm* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR & DIVISIONS.** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Ilad BK 11* [65 283] 12d.

**BIBLICAL REFERENCES.** The references are to book chapter and verse. When the King James and Douay version differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. *Old Testament Nehem h 7 45—(D) II Esd as 7 46*.

**SYMBOLS.** The abbreviations on the page call the reader's attention to one or more especially relevant parts of a whole reference. The symbols indicate that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

# 1 The nature of sin violation of divine law disorder in man's relation to God

- O T STAM NT *Genesis* 5 7 3 esp 3 11  
47 6 1 13 / *Exodus* 2 1-17 / *Deuteronomy* 5 6-21 / *1st John* 3 5 6 / *Psalms* 36 1 4—(D)  
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17 PLOTINUS *The Enneads* II CH 88a b  
18 AUGUSTIN *Confessions* XII pa 9-4 10d 12b = pa 15 7 17a 18 K V par 2 27b BK VI par 250a / *City of God* BK X

- CH 3 343d 344b K X V CH 3 4 378a 379a CH 10-15 385b 390a BK XV CH 22 416a c  
19 AQUINAS *Summa Theologiae* PART I Q 63 325b 333d PART II Q 1 A 7 REP 1 614c 615 Q 21 A 1 717a d A 4 719d 720a c Q 34 A 2 ANS 768c 769d  
20 AQUINAS *Summa Theologiae* PART II Q 71 105c 111b Q 7 A 2 AN 112b 113a A 4 114a 115a A 5 AN 115a 116b Q 73 A 1 119 120c Q 74 128d 137c Q 91 A 4 ANS 210c 211 PART I Q 8 AA 7-8 761d 763b  
21 DANTE *Divine Comedy* HELL, III [1 18] 4a b XI 15a 16b XXVII [55 132] 40a 41a PURGATORY XVI [5 4] 77b 78a xv [91] XVI [75] 79b 80c XXX-XXX 99b-102b P XXX [96] XXX [63] 100b-101 = RA I [94 4] 107b d [6 1] 115b 1116b  
22 CICAUS *P* = *S Tale* par 9 507b 508a = 509a b p 3 516a p 34 519b par 35 43 520b 524a possum pa 53 526b p 63 530a b par 10 534b p 74 535b par 85 543a  
23 HOEL S *Leviathan* ART I 85d PA I 138d 139 142 d 149b  
25 MONTAIGNE *Essays* 233b  
30 HA ON *Ad cement f Le m g* 80d 81a 100d  
31 D S AR S *Meditations* 73d 74a / *Objections and Replies* 125d 126

(1) *The nature of sin: violation of divine law & disorder in man's relation to God*

- 31 SPINOZA *Ethica* PART IV PROP 37 SCHOL 2 435b 436
- 32 MILTON *Paradise Lost* 93a 333a esp A I [128 168] 96a 97a [209-2] 98a BK II [648-666] 125b [716-814] 127b 129 A III [1 415] 135b-144b BK IV [32 113] 153a 155a BK V [600-904] 188b 195a BK VI [262 95] 202a BK II [519-549] 228b 229a K III [316-337] 239a b BK IV [619 79] 262a 264a / *Areopagitica* 395a
- 33 PASCAL *Provinciales Letters* 19b 24b 26b 45 b 78b 80b / *Pensées* 668 294b 295a
- 35 LOCKE *Human Understanding* BK II CH XXVIII SECT 7-8 229d 230a
- 41 GIBSON *Decline and Fall* 93c
- 43 MILL *Liberty* 296b d
- 46 HEGEL *Philosophy of History* BK III 304c 306 PART IV 354a
- 48 MELVILLE *Moby Dick* 30a 36b c p 31a
- 51 TO STOY *War and Peace* EPILOGUE II 689b
- 52 DOSTOEVSKY *Others Karamazov* BK III 65a 67a BK V 132b c BK VI 165b c

2 The kinds and degrees of sin

- OLD TESTAMENT Exodus 6 17 / *Deuteronomy* 5 6-21 23
- NEOTESTAMENT *Matthew* 4 1 11 5 22 1 31-3 / *Mark* 3 29 / *Luke* 4 1 13 12 10 47 48 / *John* 19 1 / *1 Corinthians* 8 1-5 / *Galatians* 5 19-21 / *1 Timothy* 1 3 / *Hebrews* 10 26-29 / *James* 2 1 / *1 John* 6 5 6 17
- 12 AURELIUS *Meditations* BK IV S T I 291a c
- 18 AUGUSTINE *Confessions* K I par 9 16 10d 12d BK III par 16 17c d BK V par 41-64 81c 87d
- 20 AQUINAS *Summa Theologica* PART I Q 2 73 111b 128d 100 AA 4-6 253d 258c
- 21 DANTÉ *Divine Comedy* TELLE 52d esp XI 15a 16b PURGATORY 53a 105d esp XVII [91-39] 79b d
- 22 CHAUCER *Parson's Tale* 495a 550a
- 23 HOBBS *Leviathan* BK IV 257 258a
- 31 DESCARTES *Objections & Replies* 125d 126a
- 33 PASCAL *Provinciales Letters* 1a 167b passim esp 27a 127a
- 40 GIBSON *Decline and Fall* 198d 220c 221b
- 44 BOSWELL *Johns* 196b-c

2a The distinction between original and actual sin

- NEW TESTAMENT *Romans* 5 4
- 18 AUGUSTINE *City of God* BK XI CH I 376b d 377 CH 3 378a d
- 20 AQUINAS *Summa Theologica* PART I Q 8 A I 15 163 164a 164d 165c A 3 165d 166b Q 82 A I R 2 168a d PART II Q 1 A 4 706a 707a
- 21 DANTÉ *Divine Comedy* PURGATORY XVI [12 114] 77b-78a
- 22 CHAUCER *Parson's Tale* p 18 507b

2b The distinction between spiritual and carnal sin

- OLD TESTAMENT Exodus 20 1 17 / *Deuteronomy* 5 6-21
- NEW TESTAMENT *Matthew* 4 1 11 / *Luke* 4 13 / *1 Corinthians* 7 1 / *1 John* 2 16
- 18 AUGUSTINE *Confessions* BK III par 16 17c d BK V par 4 27d 28a BK V par 41-64 81c 87d esp par 41 81c d par 54 85a b / *City of God* BK XIV CH 3 377a 378d / *Christian Doctrine* BK III CH 2 658b c
- 19 AQUINAS *Summa Theologica* PART I Q 63 A 2 326c 327b
- 20 AQUINAS *Summa Theologica* PART II Q 4 A 2 112b 113a Q 73 A 5 123a d Q 77 A 5 149 150a Q 100 A 4 ANS 253d 255a
- 21 DANTÉ *Divine Comedy* HELL V [12 43] 7b c PURGATORY XVII [76 139] 79b d
- 22 CHAUCER *Parson's Tale* par 18 507b

2c The distinction between mortal and venial sin

- NEW TESTAMENT *Matthew* 12 31 32 / *1 John* 5 16 17
- 18 AUGUSTINE *City of God* BK XVI CH 24 577d 578a
- 20 AQUINAS *Summa Theologica* PART II Q 72 A 5 115a 116b Q 74 A 4 131a d A 8 10 134b 137c Q 77 A 8 151c 152a Q 85 191a 198d Q 89 A I 199a PART II Q 186 A 9 661a 662b
- 22 CHAUCER *Parson's Tale* par 11 509 b
- 33 PASCAL *Provinciales Letters* 66a b
- 51 TOLSTOY *War and Peace* BK VI 477d

2c(1) The classification and order of mortal sins

- OLD TESTAMENT Exodus 20 1 17 / *Deuteronomy* 5 6-21
- 20 AQUINAS *Summa Theologica* PART II Q 63 A 2 R P 2 64b 65a Q 84 174b 178a Q 10 AA 4-6 253d 258c PART II Q 10 10-15 426-454c Q 20 21 474d 480d Q 34 43 558d 592d Q 48 603c 605a c
- 21 DANTÉ *Divine Comedy* HELL IV [5 -63] 12d 13a VI 15a 16b PURGATORY XVII [91 131] 79b d
- 22 CHAUCER *Summoner's Tale* [7587 60] 290a 291b / *Pardoner's Tale* [12 397-391] 374a 377b / *Parson's Tale* par 23-84 510b-542b
- 33 PASCAL *Provinciales Letters* 33b 34 6a 118b 119b 140a
- 42 KANT *Science of Right* 440b-441b
- 2 ( ) The classification and order of carnal sins
- NEW TESTAMENT *1 Corinthians* 3 12 15
- 20 AQUINAS *Summa Theologica* PART II Q 63 A 2 199 200d
- 22 CHAUCER *Parson's Tale* par 21 509b 510b
- 33 PASCAL *Provinciales Letters* 67b 118a 119b

3 The doctrine of original sin

Old Testament Gen 3:2-17 3 esp 3:17-19  
ApoCr HA W idom of Solomo 2.23-24—(D)  
OT Book of W idom 2.23-25  
N W TESTAM NT Romans 5 esp 5:12-19  
18 AUGUSTINE Confessio 1 bk 1 par 18 Sc d /  
City of God bk xii ch 21-22 357a b bk xii  
ch 1 5360a 366d bk xiv h 1376b d 377a  
ch 10-16 385b 390b bk xxi ch 12 571a c  
II AQUINAS Summa Theologica PART I Q 47  
2 ANS 257b 258c  
20 AQUIN S Summa Theologica PART I II QQ  
81-83 162d 174b  
21 D TE Divine Comedy PURGATORY XVIII  
[91-96] 97a XVIII [2 30] 97d 98a XVIII I  
[52 72] 104d 105a PARADIS VII [16-120]  
115b 116b  
22 C UCER Pard er's Tale [1 432 445] 375a  
/ Pa n's Tale par 8 506b 507b  
30 B ON Ad a cement of Learn g 17d 18a  
81a / Nou m Org um bk A K 52 195c d  
31 S IN ZA Eth s PART IV PROP 68 S HOL  
445a b  
32 M TON P ad Lost 93a 333a esp BK I [-  
26] 93b 94a bk iii [80-415] 137a 144b K IV  
[411 439] 161b 162a [512-52] 163b BK V  
[28 84] 176a 177 [224 47] 180a b [5 2  
553] 186b 187 BK VI I [316-333] 239a b K  
IX [647 10 4] 261b 269a [1 0-1 33] 271b  
272a K X [585-64] 287a 288b [720 844]  
290a 292b [1013 1 4] 296b 298b BK X I  
[386-435] 327b 3 8b / A p gica 394b  
395b  
33 P L Pen eer 434 435 248a 251a 445-448  
251b-253a  
37 F LDING T m j es 38d  
40 G B N D cl nd Fall 183b c  
43 M L Liberty 296b d  
46 H M L Ph l ophy of Right INTRO p 18  
16 d D TION 14 118 d / Philos phy f  
H mo y at III 304d 306a  
50 MARK Cap t l 354b  
54 FREUD W a d De sh 763b c

3 The condition of Adam before his natural state of grace and his pretural gifts

Q UT STAM NT Ge e s I 27 29 27 8 15-25 /  
Ec l s s s 7 29—(D) Ec l e s ast 7 3  
A M PHA W idom of Sol m 3 14 -23  
—(D) OT Bo k f W idom 1 13 14 2 3 /  
Ec l s s s 17 15—(D) OT E l e ast  
cu 17 1 13  
II AUGUSTIN City f God BK X CH I 329b  
A XI 2 23 357a 358a BK XI c  
360 b CH 3 4 366 CH 19 369 370  
BK XIV CH I 376b d 377a H 28 385b-  
397d pass m K X X CH 30 617 618a  
19 AQUIN Summ Th l g a PAR Q 76  
A 5 R P I 394 396 QQ 94 10 501c 527 c  
II AQUINA Summa Theologica PART I II Q 81

A 5 R P 2 167a d Q 89 A 3 200d 201d Q 109  
A 2 ANS 339c 340b A 3 CONTRARY and ANS  
340c 341b A 4 ANS 341c 342a A 8 ANS and  
RE 3 344d 346a A 10 R 3 347a d PART  
II II Q 2 A 7 ANS 396a 397c Q 5 A 1 ANS  
410a 411b PART III Q II A 3 REP I 5 704d  
700a  
21 DANTE Divine Comedy PURGATORY XVIII  
[1] XVIII [36] 96a 98a / PARADISE VII [64-  
84] 115d 116a X I [31-111] 125d 126c  
22 CH UCER Monk s Tale [14 013-020] 434b /  
Parson s Tale par 18 506b 507a  
23 HO BES Levathan ART III 191b-c 192 II  
PART IV 250d  
31 SPINOZA Ethics PART IV PROP 68 SCHOL  
445a b  
32 MILTON Parad s Lost BK I [65 -654] 107b  
BK III [-63 1] 136b 143b BK IV [32-538]  
153a 164a esp [31-171] 155a 156 [205-39]  
157 161a [610-775] 165b 169a BK V [1-560]  
175a 187b K VII [40 108] 218a 219b [519-  
550] 228b 229a [617-632] 230b 231a BK VI I  
232a 246b K IX [19 -454] 251b 257 A XI  
[45 7] 300a b BK XII [63 110] 320b 321b  
33 PASCAL Pens es 506 272b  
46 HUGEL Philosoph y f History INTRO 179d  
180c PART 304d 305a  
51 TOLSTOY Wa and Pace BK VII 275a

36 The sin of Adam

Old Testament Gen 3 / Eccl s s ter 7.29—  
(D) Ecclesiast s 7 30  
A OCYPHA W id m f Solom n I 3 16 2 23-  
4—(D) OT Bo k of W id m I 3 16 2 3-  
25  
NEW TESTAM NT Romans 5 I  
18 AUGUSTIN City of God bk xii ch 1357a b  
BK XIII H I 360a b CH 12 15 365d 366d  
BK XIV CH I 15 385d 390a BK XVI CH 12  
571a c BK XVII CH 24 609a b  
20 AQUIN Summa Theologica P T I-II Q 81  
A 5 167a d Q 82 A 2 REP 168d 169 Q 89  
A 3 200d 201d  
21 D N M D in Comedy PURGATORY XVIII  
[91-96] 97a XVIII [2 3] 97d 98a PARADISE  
VII [6 -0] 115b 116b XVIII [9-117] 147a  
22 CH UCER P d ner s Tale [12 432 445] 375a /  
Mo k Tale [4 013-020] 434b / Pars n s Tale  
p 8 507a b  
23 HOBBS s Les th PART 112a B PART III  
177d 191b c 195d  
25 MON M Es yr 233b  
30 M CON Ad a cement of Learn g 81a  
31 SPINO A Ethics PART IV PROP 68 SCHO  
445a b  
32 M TON Pa d se Lost BK I [27-75] 94 95  
BK XI I [167 16] 139 140a [74 94] 141b  
K IV [5 5-535] 163b 164 A IX [647 004]  
261b 269 / A cop g I a 394b 395  
33 P S AL P c l Letter 82 b  
46 H L Ph l phy f H I ry M AT III 304  
305b



(3) *The doctrine of original sin*

## 3c The nature of fallen man in consequence of Adam's sin

OLD TESTAMENT *Genesis* 1:9-24 6:5-13 8:21 / *Job* 15:14 16:25 4-6 / *Psalms* 14:1-3 39:5-6 11:51 2-5 53:1-3—(D) *Psalms* 13:1-3 38:6-7 12:50 4:7 52:1-4 / *Proverbs* 20:9 / *Ecclesiastes* 7:20 27:29 9:3—(D) *Ecclesiastes* 7:21 28:30 9:3 / *Jeremiah* 17:9—(D) *Jeremiah* 17:9

APOCRYPHA *Wisdom of Solomon* 2:23-24—(D) OT *Book of Wisdom* 2:23-25

NEW TESTAMENT *John* 8:3-8 / *Romans* 3:9-5:21 esp 5:12-21 7:20-21 9:29 / *I Corinthians* 15:21-22 / *Galatians* 2:16 3: esp 3:11 3:22 4:1-7 5:19-21 / *Ephesians* 2:1-5 / *I John* 2:15-17

18 AUGUSTINE *Confessions* BK I par 18 3c d / *City of God* BK XII CH 21 22 357a c K XIII CH 1 15 360 366d BK XII CH 23 K XIV CH 5 372a 380b BK XIV CH 12 13 387a 388c CH 15 27 388d 397a BK XI CH 12 571a c CH 15 572c 573b BK XII CH 22 606d 608b CH 30 617c 618a

19 AQUINAS *Summa Theologica* PART I Q 97 A 1 REP 3 513c 514c Q 98 A 2 517d 519a PART II Q 17 A 9 REP 3 692d 693d

20 AQUINAS *Summa Theologica* PART II Q 81-83 162d 174b Q 85 178b 184a Q 91 A 6 212c 213c Q 94 A 6 REP 1 2 225d 226b Q 109 A 2 ANS 339c 340b A 3 ANS 340c 341b A 8 ANS 344d 346a PART III Q 8 A 5 REP 1 760a d QQ 14 15 784a 796a

21 DANTE *Divine Comedy* PURGATORY III [16-45] 56a b c [121 129] 68c d XXVIII [91-96] 97a XXIV [16-30] 97d 98a PARADISE VII [16-20] 115b 116b

22 CHUCER *Tale of Man of Law* [4778 4791] 240b 241a / *Pardoner's Tale* 374a 382b esp [12 432 445] 375a [12 829-837] 381b / *Pardoner's Tale* pa 18 507b

23 HOWE *Leviathan* PART II 112a b PART I 191b-c 192a 195d

24 RYLA *Gyngna and Pantagruel* BK II 81a b

25 MONTAIGNE *Essays* 213a 215b 218c 219a 233a 234a 238b 239c 250a b 294a b

30 BCON *Notum Oganu* BK II AP 1 52 195c d

32 MILT *Pardoner's Tale* BK III [167 216] 139a 140a [274 3 4] 141b 142a BK IV [780-1189] 264b 273a BK X 274a 298b esp [103 123] 276b 277a [229 309] 279b-283 [585-64] 287a 288b [2 844] 290 282b BK XI [84 98] 301a [162 80] 302b-03a [251 262] 304b 305 BK XI [123] 307a c [372] 308b 327a

33 PASCAL *Provincial Letters* 82a / *Pensées* 426-42 244b 430-431 244b 434 435 248a 431 40 251a 253a 560 272b [52 114] 77b ~ 1 493 39d

22 CALDER *Pardoner's Tale* 1 193b c

44 BOSWELL *Johnson* 482a

46 HEGEL *Philosophy of Right* ADDITIO 14 118c d / *Philosophy of History* PART III 304d 305b PART IV 354a b

50 MARX *Capital* 354b

51 TOLSTOY *War and Peace* BK VII 275a

## 3d The need for a mediator between God and man to atone for original sin

NEW TESTAMENT *Matthew* 1:21 9:2 6 13 11 14 26 26 28 / *Mark* 2:3 11 / *Luke* 1:67-69 2:11 5:0-24 7:37-50 9:56 19:1 10:24-44 47 / *John* 1:29 3:16-17 4:42 6:31 39 10:9 18 14 18 19 / *Acts* 3:19-26 4:10-12 5:30-31 10:37-43 13:23 6:12 39 16:30-31 / *Romans* 1:16 3:20-26 5:6 8:1 11:31 39 9:29 10:21 / *I Corinthians* 5:7 12:1 4:12 23 55 57 / *II Corinthians* 5:14 21 / *Galatians* 3:4 2:16-21 3:19-27 5:15 / *Ephesians* 1:5 7:12 14:2 / *Colossians* 1:12-13 19:24 2:11 15:3 1:10 / *I Timothy* 1:15 2:5-7 / *II Timothy* 1:8 10 / *Titus* 3:4-7 / *Hebrews* 1:1 3:2 9:18 3:7 10:12 12:12 13:12 / *I Peter* 1:9-18 1:3 18 4:1 / *I John* 2:1 2:12 3:5 10 / *Revelation* 1:4-6—(D) *Apocalypse* 1:4-6

11 AUGUSTINE *Confessions* BK VII par 24 50d 51a / *City of God* BK IX CH 1 18 285b d 295d esp CH 15 17 293a 295c BK X CH 22 312a b CH 24 25 312d 314c BK XI CH 2 3 313a d BK XIII CH 2 4 360b 362a CH 23 24 372a 376a c K XVII CH 11 462c 463 BK XIII CH 16 573b 574a / *Christian Doctrine* BK I CH 14 18 627d 629a CH 34 634b c BK II CH 41 656a c

19 AQUINAS *Summa Theologica* PART I Q 97 A 1 REP 3 513c 514c PART II Q 5 A 7 REP 3 642a d

20 AQUINAS *Summa Theologica* PART II Q 100 A 12 264d 265d Q 103 A 2 299b 300d PART III PROLOGUE-Q 1 701 709c Q 3 A 8 729b 730b Q 22 A 3 829c 830c

21 DANTE *Divine Comedy* PARADISE I [92-93] 114c VII [19 12] 115b 116b

22 CHUCER *Pardoner's Tale* [12 834-83] 381b / *Pardoner's Tale* p 87 545a

23 HOWE *Leviathan* PART III 191c d 197d 198a 204a c

32 MILTON *Christ's Duty* [1 14] 1a b [125 156] 4b 5a / *The Passion* 10b 12a / *L'Allegro* 156c cume ion 12b 13 / *Pardoner's Tale* 93a 333a esp BK I [2 26] 93b 94a BK III [56-415] 116b 144b BK XI [1 44] 299a 300a BK XII [125 484] 325b 329b

33 PASCAL *Pensées* 430 245a 247b 527-550 264b 267b 556 270b 272a 560 272b 692 300b 301 80-781 324b 325a

44 BOSWELL *Johnson* 482 d

46 HEGEL *Philosophy of History* PART III 306b c PART III 331d 333b

52 DO TO KY *Bothers Karamazov* BK V 127b-137c pa m

54 FREUD *Psychoanalysis and Its Discontents* 797b c

### 3e The remission of sin baptism the state of the unbaptized

NEW TESTAMENT *Matthew* 3:11 17 28 19 / *Mark* 1:4 8 16 6 / *Luke* 3:3 16 / *John* 1:25-26 33 35 / *Acts* 1:5 2 38 41 45 2 38 3 19 8 35 38 10 43 48 11 16 19 -5 22 6 / *Romans* 3:20-26 5-6 8 11-11 9 9-10 0 / *Corinthians* 12 13 / *II Corinthians* 5 14 19 / *Galatians* 3 19 27 / *Ephesians* 2 4 5 / *Colossians* 1:2 8-15 / *Titus* 3 5 7 / *Hebrews* 11:6 / *I Peter* 18 3

III AUGUSTIN *Confessiones* BK I par 6 2b c par 17 18 5b d BK II par 15 12b c BK IV par 7-8 20d 21b / *City of God* BK X CH 22 12 b K XII 11 2 357 BK XII CH 7 362d 363b K XVI CH 16 573b 574a

19 AQUINAS *Summa Theologica* PART I Q 97 A1 RE 3 513c 514c

20 AQUINAS *Summa Theologica* PART II Q 8 A1 ANS 163a 164d Q 89 A 6 ANS 203b 204 c Q 13 360d 370b PART III Q 3 A 8 AN and REP 3 729b 730b Q 65 A 4 ANS 879 881d A 4 ANS 883d 884a c PART III S 2 L Q 69 AA 4-7 889c 893c

21 DRYDEN *Divine Comedy* HELL IV 5 7a PURGATORY VII [-36] 62 d XXII [55-93] 87a c ■ RADI EXIT [22 III] 135b 136 ■ X [3 - 148] 137a 138b XXXII [37 84] 155a c

■ CHAUVIN *Parson's Tale* par 3 496a par 18 19 507b 508a

22 HUBER *Lexitha* PART III 206 207a 211 212b 244d 245a

32 MILTON *Paradise Lost* K XII [436-445] 328b 329a

36 STERNE *Tristram Shandy* 221a 224a

40 GIBSON *Deceit and Fall* 297 298b

### 4 Actual or personal sin

#### 4 The election of original sin to actual sin

NEW TESTAMENT *Romans* 3 7-26 5:1 1

18 AUGUSTIN *Confessiones* K P 17-18 5b d / *City of God* d K XIV CH 376b d 377a 13 378a d

19 AQUINAS *Summa Theologica* PART I Q 114 A 3 AN 583b d

20 AQUINAS *Summa Theologica* PART II Q 8 A1 ANS 16 164d Q 89 A 11 203b 204 PART I Q 1 A 4 706a 707a

22 CHURCH *Parson's Tale* par 18 9 507b-508b

32 MILTON *Paradise Lost* K [67 6] 139 140 [74 343] 141b 143 K X [994 1 8] 269a 271a / *Paradise* 391b 395b

### 4b The consequences of original sin

OLIVIER *Summa* ENT Number 15-7 31 / *Book* 1 5 31 / *Proverbs* 0-9 0-9 par m 2 4 24 9 28 3 8-9 / *Elihu* 1 7-26--(D) *Ecclesiastes* 1 7 7 / *Isaiah* 5 12 23 8 7-8--(D) *Isaiah* 5 2 3 8 7-8

APOTHECARY *Book of Solomon* 2 esp 2 24 14 2 29--(D) OT *Book of Wisdom* esp 24 3 14-22 29 / *Ecclesiasticus* 8 2 10 9 13 11 1 12 13 14 19 2 -3 1 6 13 16 18 25 24 6 29 27 2 10 31 5 11 25-31 47 19 0--(D) OT *Ecclesiasticus* 8 3 10 9 15 16 11 10 2 13 9-11 23 1-6 17 21 23 5 6 25 33 26 28 -7 2 11 31 5 30-4 47 21 22

NEW TESTAMENT *Matthew* 13 8 23 15 10-0 / *Mark* 4 1-20 7 4 23 / *Luke* 4 1 3 8 4 15 / *Romans* 1 18-32 6 19 7 22 23 / *I Corinthians* 7 4-5 8 9 13 9:27 15 56 / *II Corinthians* 2 10-11 4 3 4 / *Galatians* 5 16 1 / *Ephesians* 4 2 / *Colossians* 3 5-7 / *I Timothy* 6 9 10 / *II Timothy* 2 5 6 / *Titus* 3 3 / *James* 1 15 2 4 -6 / *I Peter* 4 1 3 5 8-9 / *II Peter* 1 4 2 10 22 / *I John* 3 4-9

18 AUGUSTIN *Confessiones* BK II par 18 10a 13a BK III par 16 17c d K VII par 4-5 44b d BK V par 10 10 55c 56b K X par 41-66 81c 88b / *City of God* K I CH 16-27 139 146 K XIV CH 3-6 378a 380 CH 13-14 387c 388d BK XV CH 22 416a BK XIX CH 6 514b 515a

19 AQUINAS *Summa Theologica* PART I Q 48 A 5 REP 3 263a d Q 63 A 7 AN 331c 332b A 8 332c 333b Q 92 A 1 3 488d-489d ■ 4 581d 585 PART I Q 1 A 7 B P 1 614c 615a Q 42 A 3 802d 803c

20 AQUINAS *Summa Theologica* PART II Q 75-84 137 178a

■ DANTE *Divine Comedy* HELL 1a 52d purgatory esp 15a 16b VIII [3 - 8] 18b-19a XIV [78] 34d 35b XV [55 132] 40a-41a PURGATORY 53 105d pa um sp xi 68d 70b VIII [03 29] 73 b xv [4 -81] 75d 76 XVI [52 4] 77b 78 XVI [91] XVIII [75] 79b 80 X X [1-69] ■ 82 XXX-XXXI 99b 102b PARADISE [94 14] 107b d

22 CHAUVIN *Parson's Tale* 278a 284a / *Prologue of Pardoer's Tale* 372a 374 / *Pardoners's Tale* 374a 382b esp [2 39, -593] 374 377b [12 829-852] 381b / *Tale of Melibee* par 48-5 421b 425b / *Satan's Pologite* [5 469 489] 461a / *Parson's Tale* 495a 550a esp par 3 496 pa 0-86 508b 544a

23 HOBBS *Leviathan* PART I 85d ART II 1 8d 139 151b A TV 272d

26 SHAKESPEARE *Henry VI* A TV C I [5 90] 66d 67a

27 SHAKESPEARE *Hamlet* ACT I C I [1 9 37] 32d 33 A 5 [36-7] 53d 54a c

IV [44 5] 56 b / *Measure for Measure* ACT SC II [162 187] 183d 184a S I [0-39] 184b c ACT I SC [95 15] 187d 188b / *Othello* CT I SC III [60-69] C3 / *Pericles* A TI PROLOGUE SC I 421b 4 / *Cymbeline* ACT III SC IV [76-80] 467 / *Henry VIII* A TV II C II [435 457] 573 d

31 DESCARTES *Objections* d Repl 1 125d 126a

32 MILTON *Paradise Lost* K V [505-535] 163b 164a BK V [6-94] 175b 177a / *Samson* n



- 33 12 19 / *Job* 1-4-5 4 1-6 / *Psalms* 3  
1-5 1 34 8 38 17 18 40 6 51 69 5 13-  
(D) *Psalms* 31 -5 10 33 19 37 18 19 39 7  
50 68 6-14 / *I Iah* 1 16-2 58 1-7-(D)  
*I Ias* 1 16-20 58 1-7 / *E ek el* 43 18 -7-  
(D) *Ezechiel* 43 18 7 / *Da el* 9 3 20 / *I I*  
1 8 15 2 12 7 / *I I* h 3-(D) *Jonas* 3 /  
*M ch us* 6 6-8-(D) *M h* s 6 6-8
- A O KYPH *Wisdom of Solomon* 12 19-(D)  
OT *Book of Wisdom* 12 19 / *Ecclesiasticus*  
1-1 3 3 14 5 17 4 26 18 21 20 2-3 2  
1 6 3 1-6 8 2-5 34 18 19 25-26-(D) OT  
*Ec l nasticus* 1-27 34 15 17 17 20-24 8  
0 1 21 17 3 1-6 28 2-5 34 1-3 30-  
3 / *II M ecab* 1 2 39-45-(D) OT *II*  
*Isachab* 1 1 39-46
- NEW T TA ENT *Matthew* 3 1-12 4 17 9 13  
11 2 / *M h* 1 14 15 / *Luke* 3 8 5 3  
7 35-50 10 13 13 1-5 15 16 27 31 / *I hn*  
0 22 23 / *Act* 3 19 5 31 8 9-24 17 3  
26 20 / *R ma* 1 2 4-6 / *I Corinthians* 6 9-11 /  
*II C ithian* 7 8 1- / *II T mothy* 2 25 26 /  
*Heb eus* 5 1 0 6 4 8 7 0-10 18 / *James*  
4 8 10 5 13 6 20 / *I Peter* 4 - / *II P ter*  
3 9 / *I hn* 1 9 3 4 5 / *Re latio* 2 18 23  
3 1-6 19-(D) *Ap alyps* 18-23 3 1-6 19  
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452b d
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- 32 MILTON *Comus* [170-229] 37a 38b / *Paradise Lost* BK III [167-216] 139a 140a / *Samson Agonistes* [590-605] 352b
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- 35 LOCKE *Human Understanding* BK I CH II SECT 9 106a d
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- 49 DARWIN *Descent of Man* 312d 314c esp 313a b
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## 6 Guilt and the punishment of sin

### 6a Man's freedom in relation to responsibility and guilt for sin divine predestination or election

OLD TESTAMENT *Genesis* 3 / *Deuteronomy* 30 15 o / *Joshua* II 19- o-(D) / *1st 19-20* / *Psalms* 81 11 12- (D) *Psalms* 80 12 13 / *Isaiah* 6 8 10 63 17- (D) *Isaiah* 6 8-10 63 17 / *Jeremiah* 46 27 28- (D) *Jeremiah* 46 27 8

APOCRYPHA *Wisdom of Solomon* 19 4- (D) OT *Book of Wisdom* 19 4 / *Ecclesiasticus* 15 11 20- (D) OT *Ecclesiasticus* 15 11 21

NEW TESTAMENT *Matthew* 13 13 15 / *Luke* 2 3 4 / *John* 6 64-66 10 26-29 12 37 40 13 18 7 / *Acts* 4 27 28 7 51 8 25 27 / *Romans* 1 16-32 9 9-24 11 passim / *Ephe* *sians* 1 3 12 / *1st Thessalonians* 2 11 14- (D) *2nd Thessalonians* 2 14 / *Peter* 1 1-5

4 HOMER *Iliad* BK VI [342 358] 43c d

5 AESCHYLUS *Choephoroe* 70a 80d esp [269-314] 72d 73b [885 1076] 78d 80d / *Eumenides* 81a 91d

5 SOPHOCLES *Oedipus the King* 99a 113 II / *Oedipus at Colonus* 114a 130a c esp [253 291] 116c d [939 1015] 123a d

5 EURIPIDES *Electra* 327a 339a c esp [1168 1359] 337d 339a c / *Orestes* 394a-410d esp [478 629] 398d-400b

12 AURELIUS *Meditations* BK II SECT 11 258a b

18 AUGUSTINE *City of God* BK V CH 9-10 213b-216c BK XII CH 3 343d 344b CH 8 346d 347b BK XIV C I II III 385d 387b C I II 388d 390a BK XV CH I 397b d 398c BK XXII CH I 586b d 587b CH 30 617c 618a

19 AQUINAS *Summa Theologiae* BK I Q 1 A 1 ANS 100d 101d Q 19 A 9 116d 117d Q 22 A 2 REP 4-5 128d 130d Q 23 A 3 134b 135a Q 24 A 3 142d 143c Q 62 A 3 REP 2 319c 320b A 8 REP 3 323c 324a Q 113 A 1 REP 3 576a d PART I II Q 6 A 4 REP 3 647b 648a Q 24 A 3 REP 3 728c 729c Q 42 A 3 A 1 802d 803c

20 AQUINAS *Summa Theologiae* PART II Q 73 A 1 123d 124c 10 128a d Q 74 128d 137 Q 5 A 1 2 137d 139c Q 76 A 3 4 142d 144d Q 77 A 6-7 150a 151c Q 8 8 152b-162d BK II II Q 186 A 10 662b 663b

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25 MONTAIGNE *Essays* 250a

30 BACON *Advancement of Learning* 17d 18a



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15 18 16 19 17 18 10-19 2—(D) OT *Book of Wisdom* 1 7-8 12 16 2 24 3 9 19 5 17 6 9 10 1-8 11 9-20 1 14 7 31 15 18 16 19 17 18 10-19 20 / *Ecclesiastus* 5 7 10 13-16 11 26 16 6-13 23 18 26 27 25 28 6 39 27-30—(D) OT *Ecclesiastus* 5 2-7 10 13 16 11 28 16 6-13 23 25 36 27 25 28 6 39 32 36 / *Baruch* 1 5 passim—(D) OT *Baruch* 1 5 pa sim / I *Maccabees* 2 (2 63 6 1 16—(D) OT I *Machabees* 2 62-63 11 16 / II *Maccabees* 6 12 17 7 31 38 9 10 4 12 40-42—(D) OT II *Machabees* 6 12 17 7 31 38 9 10 4 12 40 42

NEW TESTAMENT *Act* 12 20 23 13 4 12 / I *Corinthi ns* 11 32 / *Revelation* 8-9 11 16-18 —(D) *Apocalypse* 8 9 11 16-18

5 Aeschylus *Persia* 15a 26d / *Seven Against Thebes* 27a 39a 11 / *From thes i Boi nd* 40a 51d / *Agamemnon* 52a 69d / *Choephoroe* 70a 80d / *Li menid* 81a 91d

5 SOPHOCLES *Oed pus the King* 99a 113a c / *O d pus at Colo us* 114a 130a c / *Ant gone* 131a 142d esp [58 62b] 136b c / *Ajax* 143a 155a c

5 EU IPIDES *Electra* 327a 339a c / *Bacchantes* 340a 352 c / *O es* 394a 410d

6 HERODOTUS *History* bk i 4d bk ii 70d 71a bk iii 95c d 103b d bk iv 159d bk vi 199c d 201b c 201d 202c 203 b bk vii 217c 237d 239a 246b c 246d 247a bk viii 279d 280a 283d

12 LUCRATIUS *Natu e of Things* bk iii [978-1023] 42d-43b bk vi [379-422] 85b d

14 PLUTAR *Camillus* 107b d

18 AUGUSTINE *Confessio s* bk iii par 5 14b / *City of God* bk xix ch 15 521a c bk xvi ch 13 14 571d 572c / *Christ an Doct me* bk iii ch 23 648a c

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21 DANT *Div e Comedy* PUR ATORY II [103 145] 57a 11 [85 129] 59d 60 xx [34-96] 83 84a xxi i [15 111] 89a b xxviii [34-78] 104c 105a 11 RAD I E xv i [46-99] 132c 133a xviii [115 136] 134d 135a xxi [121] xxii [18] 139c d xxvii [1-6f] 147b 148a [121 48] 148c d

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22 HOBBS *Leviathan* PART II 160c 161a 163d 161a

30 B CON *New Aids t s* 204d 205b

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33 I C L *Provincial Letters* 139a 140a

35 LOCKE *T lerat n* 1a 2c 5c 6a 11 15a

36 STERNE *Tristram Shandy* 282a 287b

37 FIELDING *Tom Jones* 20b 21a

38 MONTESQUIEU *Spirit of Laws* bk xii 85d 86a

40 GIBBON *Decl ne and Fall* 180b 188b c 198d 200a 302d 303c 452b d

41 GIBBON *Decl ne and Fall* 93c 94c passim

44 BOSWELL *Johnson* 314c 315b

48 MELVILLE *Moby D ck* 30a 36b

51 TOLSTOY *Wa and Peace* bk xiv 606b 607a

52 DOSTOEVSKY *Brothers Karama* 11 bk ii 30b 32a

6d *The eternal punishment of sin the ever lasting perdition of the unrepe tant in Hell*

OLD TESTAMENT *Psalms* 9 16 17—(D) *Psalms* 9 17 18 / *Proverbs* 7 6 27 11 31 / *Isaiah* 33 10 14 66 24—(D) *Isaiah* 33 10-14 66 24 / *Daniel* 12 2

APOCRYPHA *Jud th* 16 17—(D) OT *Jud th* 16 20 21 / *W idom of Solomon* 4 16-20 5 1 14—(D) OT *Book of Wisdom* 4 16-20 5 1 15 / *Ecclesiastus* 7 16-17 12 6 18 22 23 21 9-10—(D) OT *Ecclesiastus* 7 17 19 12 4 18 22 24 21 10-11

NEW TESTAMENT *Matthei* 3 7 12 5 22 29-30 8 12 10 14 15 28 11 20-24 13 41 42 40-50 18 7-9 25 31 46 esp 5 41 25 46 / *Ma k* 3 29 9 42 49 16 16 / *Luke* 12 5 16 19-26 / *John* 15 6 / *Romans* 6 23 7 5 / I *Co mians* 6 9 11 7 9 15 55 56 / *Galatians* 6 8 / II *Thesalonians* 1 7 9 / *Hebrews* 10 26-31 / *James* 5 1-6 / I *Peter* 4 18 / *Jude* 6-13 / *Revelation* 2 20 23 14 9-11 19 17 20 15 21 8—(D) *Ap calypse* 2 20-23 14 9-11 19 17 20 15 21 8

4 HÖVER *Odyssey* bk xi [568 600] 248d 249a

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12 LUCRATIUS *Natu e of Thi gi* bk iii [3,8-1023] 42d 43b

18 AUGUSTINE *City of God* bk xiii ch 2 360b 361a c 12 365d 366a ch 14 15 366b d ch 23 372b d bk xiv ch 1 376b d 377a c 15 388d 390a bk xv ch 1 397b d 398c bk xvi ch 13 519a 520a ch 28 529d 530a c bk xv ch 15 543d 544b bk xxi 560 586a c esp ch 2 3 560a 56 a ch 9 50 565d 570b ch 13 571c 572 ch 17 574a 11 ch 23 576c 577b

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21 DANT *Divine Comedy* HELL 1a 52d esp iii 4a 5b v [1 51] 7a 11 vi [94 115] 9b c vii [130] 10c d xi 15a 16b xiv [16-72] 19c 20b xxvii [55 136] 40 41b xx iii [112 143] 42c 43 xxxiii [91 150] 50 51a P RADISE xv [10-12] 128c

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- 26 SHAKESPEARE *Richard III* ACT I SC IV [42-  
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- II DOSTOEVSKY *Brothers Karamazov* BK I 10b-  
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- 6 The purifying punishments of Purgatory
- OL TESTAMENT *Isaiah* 44—(D) *Isaiah* 44 /  
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- NEW TESTAMENT *Matthew* 3 11 12 32 /  
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- 13 VAGAN *Aeneid* BK VI [724 751] 230b 231a
- 18 AUGUSTINE *City of God* BK XX CH 25 26  
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APOCRYPHA *Wisdom of Solomon* II 23 12 19—  
(D) OT *Book of Wisdom* II—4 12 19 /  
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- 19 AQUINAS *Summa Theologica* PART I Q 6  
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- 22 CHAUCER *Trilussa and Crestida* BK I SYNTAX  
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- 32 MONTAIGNE *Sonnets* XIV 66a / *Parades* LOT BK  
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- 33 PASCAL *Po Letter* 1a 13a 15a b 19b-  
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41 GIBSON *Decline and Fall* 233d 234b 334b c

44 BOSWELL *Johnson* 295b

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47 GOETHE *Faust* PART II (II 934-941) 290b

52 DOSTOEVSKY *Brothers Karamazov* BK VII 164a 169c BK VIII 180a 191a,c

53 JAMES *Psychology* 200b

## CROSS REFERENCES

- For The meaning of sin and for discussions bearing on the difference of sin from crime and vice see LAW 3a-3b 6c-6e(3) PUNISHMENT 3b 5b RELIGION 2 VIRTUE AND VICE 1 8a 8b
- Discussions relevant to the doctrine of original sin see ANGEL 5a GOOD AND EVIL 3f MAN 9b-9b(2) VIRTUE AND VICE 8a WILL 7c(1) and for the conditions of man's atonement for and remission from original sin see GOD 9c 9c RELIGION 2c
- The causes and consequences of actual or personal sin see GOOD AND EVIL 3f VIRTUE AND VICE 8b WILL 8b(1)
- The conditions of man's salvation from sin and the issue concerning grace and good works see GOD 7d LIBERTY 5c NATURE 6b PUNISHMENT 5c VIRTUE AND VICE 8b
- The nature of sanctity and heroic virtue see PLEASURE AND PAIN 7b RELIGION 3d TEMPERANCE 6a VIRTUE AND VICE 8f-8g
- Other considerations of man's freedom and responsibility for sin in relation to divine predestination see FATE 4 GOD 7f LIBERTY 5a-5b PUNISHMENT 2a WILL 5b(4) 7c(2)
- Other discussions of the divine punishment of sin both temporal and eternal see ETERNITY 4d GOD 5i HAPPINESS 7c(3) IMMORTALITY 5d-5e PUNISHMENT 2 5d-5e(2) VIRTUE AND VICE 8c
- Treatments of the sense of sin in relation to duty honor conscience and abnormal feelings of guilt see DUTY 4-4b HONOR 2a PUNISHMENT 5c 6

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topic with which this chapter deals. These works are divided into two groups.

I Works by authors represented in this collection

II Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

### I

- PLUTARCH *Of the Love of Wealth in Moral Actions*
- AUGUSTINE *On Free Will* BK III 114
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- *Quaestiones Disputatae De Veritate* Q 17 D 15a1 QQ 2-5 7 15
- *Summa Theologiae* ART II II QQ 161-165
- IRVING *Of English Essays*

HOBBES *Philosophical Rudiments Concerning Government and Society* C 114

— *The Elements of Law, Natural and Politic* PART I CH 7

SINOZA *Correspondence* XIX XXI

WILKES *Mrs. The Varieties of Religious Experience* LECT VI VII

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### II

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BENEDICT OF NURSIA *The Rule*

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 — *De Conceptu Virginali et Originis Peccati*  
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## Chapter 87 SLAVERY

### INTRODUCTION

MORALISTS and political philosophers who appear to be in substantial agreement on the principles of justice differ remarkably from one another on whether slavery is just. The sharpness of this disagreement is made all the more remarkable by the almost unanimous condemnation of slavery—in two senses of that term.

As appears in the chapter on TYRANNY the condition of those who live under tyrannical rule is generally conceived as a kind of slavery involving not only the loss of political freedom but also the suffering of other abuses or injuries. With the possible exception of Hobbes who says that tyranny is merely monarchy disliked none of the great authors from Plato and Aristotle to Rousseau, Hegel and Mill writes of tyranny except as a perversion of government—unjust, lawless or illegitimate. The evil of tyranny for them lies in the enslavement of men who deserve to be free, who should govern themselves or at least should be governed for their own good, not exploited by a ruler who uses them for his own private interests.

Some writers like Montesquieu who tend to identify despotism and tyranny see little difference between subjection and slavery regarding both alike as degradations. Yet Montesquieu—and with him Aristotle—also thinks that for certain races of mankind subjection or slavery may be justified. Mill later makes the comparable point that for a people at a certain stage of political development subjection may be necessary for a time in preparation for citizenship. The two basic distinctions in political status which are here implied—between slavery and subjection and between subjection and citizenship—are developed more fully in the chapter on CITIZEN. The first of these distinctions relates to the difference in

the condition of men under tyranny and under benevolent despotism; the second to the difference in the condition of men under absolute and under constitutional government.

The other sense in which the word slavery seems always to be used with the connotation of evil is the sense in which Augustine speaks of man's slavery to lust as a consequence of original sin or in which Spinoza writes of human bondage—the condition of men enslaved by the tyranny of their passions—as compared with human freedom under the rule of reason. This meaning of slavery is discussed in other chapters such as EMOTION and LIBERTY.

The slavery which results from the tyranny of the passions is a disorder from which any man may suffer. It stems from a weakness in the human nature which is common to all. Similarly the slavery of a whole people under tyrannical rule is a perversion of government for all the members of the community not just for some. But whenever slavery is defended it is justified only for *some men* within a community, not for all, or if for a whole people not for all mankind but only for *certain peoples* under certain conditions. With regard to slavery the basic issue of justice is, therefore, whether *some men* should be slaves or *all* should be free, not whether *all* should be slaves or *all* free.

THE DISTINCTION BETWEEN the slavery of some men within a community and the enslavement of a whole people appears to be related to the distinction between economic and political enslavement. In the ancient meaning of the word economic the economic slave is the slave of the household or family. A complete household, writes Aristotle, consists of slaves and freemen. The elements of a family are

master and slave husband and wife father and children

That the distinction between slave and free man signifies economic rather than political status for Aristotle and for the ancients generally seems to be indicated by the fact that under certain types of oligarchical constitution free men are excluded from citizenship without thereby becoming slaves. But in all ancient republics democratic as well as oligarchical slaves are ineligible for citizenship.

Though the relation of master and slave is essentially economic rather than political such slavery has a political aspect in the sense that some men have no function in the state except to serve other men. Aristotle speaks of them as necessary to the state but not as citizens' parts of it. 'The necessary people' he says are either slaves who minister to the wants of individuals or mechanics and laborers who are the servants of the community.

The mark of economic slavery seems to be the kind of work a man does and the conditions under which he labors whereas political slavery seems to depend upon the kind of life a man leads and the conditions under which he lives in society. The economic slave serves a master by his work. The political slave lives under a tyrant. In Aristotle's view it is only the man who is economically free who has anything to lose from being enslaved by a tyrant. No free man if he can escape from it will endure such government, he writes, but the barbarians who are by nature slaves do not rebel against tyranny. Where some men are by nature free there is also a natural distinction between women and slaves but among barbarians according to Aristotle no distinction is made between women and slaves because there is no natural ruler among them; they are a community of slaves male and female.

The difference between economic bondage—which can include what Marx calls the wage-slavery of the proletariat as well as chattel slavery and other forms of serfdom—and the political condition of those enslaved by a tyrant does not seem to affect the issue of justice. Those like Hobbes and Locke who think that the vanquished man must pay for being allowed to live by submitting to slavery do not seem concerned whether the servitude takes

the form of private possession by an individual master or the subjugation of a whole people by the conquering state. Nor do those like Aristotle and Montesquieu who regard some men or some races as naturally servile seem to offer reasons for political slavery different from those which they think justify economic servitude.

What does seem to affect the issue concerning the justice of slavery is the difference between the natural slave and the slave by force or law. This is the difference between the man who is born a slave (not merely born of slaves and into slavery) and the man who born with a nature fit for freedom is made a slave either because his parents before him were slaves because he is sold into slavery or because for one reason or another he forfeits his birthright to freedom.

If no men are by nature slaves then the only questions of justice concern the conditions which justify making slaves of free men. These may remain the only questions even if there are natural slaves since it cannot be unjust to treat as slaves those who are by nature slaves any more than it is unjust to treat animals as brutes.

In both cases some consideration may be given to how slaves or animals should be treated. 'The right treatment of slaves' Plato declares in the *Laws* is to behave properly to them and to do to them if possible even more justice than to those who are our equals. Justice also requires according to Plato that if a slave or an animal do any harm the master shall pay for the injury.

WE HAVE ALREADY observed that with regard to natural slavery the main issue is one of fact. The fact in question concerns human equality and in quality. We think that equality of all men which rests upon their common possession of human nature are some men by nature inferior to others in the use of reason or their capacity for leading the life of reason? Does such inferiority prevent them from directing their own lives or even their own work to the ends which are the natural fulfillment of man's powers? And if so do not such men profit from being directed by their superiors as well as from serving them and through serving them,

participating in the greater good their betters are able to achieve?

These are the questions of fact which Aristotle seems to answer affirmatively as he develops his theory of natural slavery. If the facts are granted then no issue of justice arises for Aristotle can say that the slave by nature and the master by nature have in reality the same interests. It is by the justice inherent in the relation of master and slave *when both are naturally so related* that Aristotle can criticize the injustice of all *conventional* forms of slavery. But the question of fact must be faced as Aristotle himself is aware.

Is there any one intended by nature to be a slave he asks and for whom such a condition is expedient and right or is all slavery a violation of nature? Aristotle recognizes that others affirm the rule of a master over slaves to be contrary to nature and that the distinction between slave and free man exists by law only and not by nature and being an interference with nature is therefore unjust. He himself questions the justice of making slaves of captives taken in war for that may violate the natures of men of high rank who have had the misfortune to be captured or sold. But he thinks that the same kind of difference which exists between male and female—the male being by nature superior the female inferior the one ruling the other submitting to rule—can be extended to all mankind.

Where there is such a difference Aristotle explains as that between soul and body or between men and animals the lower sort are by nature slaves and it is better for them as for all inferiors that they should be under the rule of a master. For he who can be and therefore is, another's and he who participates in a rational principle enough to apprehend but not to have such a principle is a slave by nature whereas the lower animals cannot even apprehend a principle they obey their instincts. And indeed the use made of slaves and of tame animals is not very different for both with their bodies minister to the needs of life. If men differed from one another in the mere forms of their bodies as much as the statues of the gods do from men all would acknowledge that the inferior class should be slaves of the superior. And if this is true of the body how

much more just that a similar distinction should exist in the soul. It is clear then that some are by nature free and others slaves and that for this latter slavery is both expedient and right.

According to the theory of natural slavery it is as good for the slave to have a master as for the master to have a slave. This reciprocity of interest does not occur in legal or conventional slavery. In both types of slavery the slave is a piece of property a possession. Whether by nature or by institution a slave does not own himself he is another's man. He may be called another's man Aristotle says who being a human being is also a possession. Does this mean that the slave belongs wholly to the master in all that he is and has? He would seem to belong to his master insofar as he is a possession but not wholly—in all that he is and has—insofar as he is a human being. Aristotle does not introduce such a qualification where he says that the slave is a part of the master a living but separated part of his bodily frame yet he adds where the relation of master and slave is natural they are friends and have a common interest but where it rests merely on law and force the reverse is true.

Aristotle considers the difference between the natural slave and other forms of personal property whether domestic animals beasts of burden or the inanimate instruments used in the household for productive purposes. Do slaves he asks have any excellence beyond and higher than merely instrumental and ministerial qualities of the sort to be found in tools and animals? Do they have virtues and if so then in what way will they differ from freemen?

Aristotle answers by saying that since they are men and share in the rational principle it seems absurd to say that they have no virtue. But since the rational principle in them is weak and consists only in the ability to execute decisions—not to make them or to know the end for which they are made—the slave will have a capacity for only so much virtue as he requires enough virtue for example to prevent him from failing in his duty through cowardice or lack of self control.

It is precisely because of his limited competence and virtue that the slave needs, and

profits by having a master Aristotle thinks that he is better off than the artisan out of bondage The slave shares in his master's life the artisan is less closely connected with him and only attains excellence in proportion as he becomes a slave The meaner sort of mechanic has a special and separate slavery and whereas the slave exists by nature not so the shoemaker or other artisan

The separate slavery of the artisan makes him more like an animal or an inanimate tool in the way he is used for according to Aristotle he is an instrument of production while the natural slave participates in his master's life by being an instrument not of production but of action The work the slave does enables the master to live well—to achieve the happiness of the political or contemplative life—and since life is action not production the slave is a minister of action If the slave had in his own nature the capacity for human happiness he would not be by nature a slave nor be limited to the good of serving another man's happiness

Slaves and brute animals cannot form a state Aristotle says because the state exists for the sake not of life but the good life and slaves have no share in happiness or in a life of free choice No one assigns to a slave a

share in happiness he says in another place unless he assigns to him also a share in human life At best that share could come only from being a part of the master and contributing to the master's happiness But though to this extent the slave by nature and the master by nature have in reality the same interests the rule under which the slave lives is nevertheless exercised primarily with a view to the interest of the master

ARISTOTLE'S DOCTRINE OF natural slavery is rejected by those who affirm the fundamental equality of all men in the common humanity and who in addition insist that the inequality as individuals in talent or capacity should not affect their status or determine their treatment On these grounds Roman Stoics and Christian theologians seem to agree—and with them such modern thinkers as Rousseau Kant Hegel and Mill—that all men are by nature born to be free Freedom writes Kant belongs to every man in virtue of his Humanity There is in

deed an innate Equality belonging to every man which consists in his right to be independent of being bound to others in virtue of which he ought to be *his own master by Right* That all persons are deemed to have a right to equality of treatment seems to follow for Mill from the principle that one person's happiness supposed equal in degree (with the proper allowance made for kind) is counted for exactly as much as another's The equal claim of everybody to happiness involves an equal claim to all the means of happiness among them in freedom

But though theologians like Augustine and Aquinas deny that slavery is instituted by nature they do not seem to regard it as contrary to natural law or to the will of God Something can be according to natural law in two ways Aquinas says First because nature inclines thereto Secondly because nature does not require the contrary Just as we can say in the second sense that nakedness is natural for man because nature did not give him clothes, but art invented them so we can say that all men are by nature free because slavery was not instituted by nature but devised by human reason for the benefit of human life

The institution of slavery whereby one man belongs to another for his use seems due to the fallen nature of man as one of the penal consequences of original sin If man had remained in a state of innocence one man would have ruled another for the latter's good but no man would have been the master of slaves to be used for the master's good Since it is a grievous matter to anyone to yield to another what ought to be one's own it follows says Aquinas that such dominion necessarily implies a pain inflicted on the subject This painfulness of slavery in turn seems to imply a contradiction to Aristotle's view that slavery fits certain natures and is for their benefit

By nature as God first created us writes Augustine no one is the slave either of man or of sin Both sorts of slavery are introduced by sin and not by nature Both are punishments for sin though one seems to Augustine more grievous than the other It is a happier thing he says to be the slave of a man than of a lust for even this very lust of ruling

lays waste men's hearts with the most ruthless dominion. Moreover, when men are subjected to one another in a peaceful order, the lowly position does as much good to the servant as the proud position does harm to the master.

Not sin, but climate, according to Montesquieu, is the cause of slavery and to some extent its excuse. Though he thinks that the state of slavery is in its own nature bad, neither useful to the master nor to the slave, Montesquieu, like Hippocrates before him, regards the Asiatics as reduced to servility by the physical conditions of their life. There reigns in Asia, he writes, "a servile spirit which they have never been able to shake off." Under Asiatic despotism, where whole peoples live in political servitude, domestic slavery is more tolerable than elsewhere. In those countries where the excess of heat enervates the body and renders men so slothful that nothing but the fear of chastisement can oblige them to perform any laborious duty, slavery is "more reconcilable to reason."

Montesquieu seems to accept Aristotle's doctrine with some qualifications. Aristotle endeavors to prove that there are natural slaves, but what he says is far from proving it. If there be any such, I believe they are those of whom I have been speaking. Slavery is both natural and unnatural. As all men are born equal, Montesquieu declares, slavery must be accounted unnatural, though in some countries it be founded on natural reason. Natural slavery, then, is to be limited to some particular parts of the world. But in arguing the right of Europeans to make slaves of the negroes, he concludes with the equivocal remark that "it is impossible for us to suppose these creatures to be men, because allowing them to be men, a suspicion would follow that we ourselves are not Christians."

Hegel's comment on the enslavement of African negroes by Europeans runs somewhat differently. Bad as this may be, he writes, "their lot in their own land is even worse, since there a slavery quite as absolute exists." But though Hegel thinks that the negroes are naturally given to slavery, he regards the natural condition itself as one of absolute and thorough injustice. To remove this injustice, however, is not easy. Man must be matured for free-

dom. Hegel writes: "The gradual abolition of slavery is therefore wiser and more equitable than its sudden removal."

Mill also looks upon slavery as a stage in the rise of certain peoples from savagery to political life and maintains that the transition to freedom must be gradually effected. A slave properly so called, he says, is a being who has not learnt to help himself. He is no doubt one step in advance of a savage. He has not the first lesson of political life still to acquire. He has learnt to obey. But what he obeys is only a direct command. It is the characteristic of free slaves to be incapable of conforming their conduct to a rule or a law. They have to be taught self-government, and this in its initial stage means the capacity to act on general instructions. Extenuations of the injustice of ruling men as slaves, such as those proposed by Hegel and Mill, are rejected by Rousseau.

The notion that some men are by nature slaves, whether in Asia or in Europe, seems to Rousseau to be an illusion due to the fact that those who are made slaves by force have had their natures debased to slavishness. Aristotle, he says, took the effect for the cause. Nothing can be more certain than that every man born in slavery is born for slavery. Slaves lose everything in their chains, even the desire of escaping from them. If then there are slaves by nature, it is because there have been slaves against nature. Force made the first slaves, and their cowardice perpetuated the condition.

It is sophistry, he thinks, for philosophers to attribute to man a natural propensity to servitude, because the slaves within their observation are seen to bear the yoke with patience, they fail to reflect that it is with liberty as with innocence and virtue: the value is known only to those who possess them, and the taste for them is forfeited when they are forfeited themselves.

THE ISSUE CONCERNING slavery as a social or legal institution does not seem to be resolved by the views men take of natural slavery. Aristotle, who holds that *only* natural slavery is justified, criticizes those who affirm to be unjust and inexpedient in their own case what they are not ashamed of practising towards others: they demand just rule for themselves,

he writes but where other men are concerned they care nothing about it. Such behavior is irrational unless the one party is and other is not born to serve. This cannot be determined by conquest. Aristotle questions therefore the convention by which whatever is taken in war is supposed to belong to the victors or the principle that because one man has the power of doing violence and is superior in brute strength another shall be his slave and subject. Those who assume that slavery in accordance with the custom of war is justified by law are confronted by Aristotle with the question: What if the cause of the war be unjust?

Hobbes and Locke appear to take an opposite view. Men in a state of nature are free though they can actually enjoy only as much freedom as they have power to secure. Yet the natural inequality in their powers does not establish a natural right on the part of the stronger to enslave the weaker. Hobbes makes the right of mastership or what he calls despotical dominion depend not merely upon victory in war but upon a covenant into which the vanquished enter voluntarily when the vanquished to avoid the present stroke of death covenanteth

that so long as his life and the liberty of his body is allowed him the victor shall have the use thereof at his pleasure. Only after such covenant is made the vanquished is a servant and not before. It is not therefore the victory that giveth the right of dominion over the vanquished but his own covenant. That Hobbes means chattel slave when he says servant seems to be indicated by his remark that the master of the servant is master also of all he hath and may exact the use thereof that is to say of his goods of his labour of his servants and of his children as often as he shall think fit.

Locke disagrees with Hobbes that one man can give another the right to enslave him by contracting to become a slave in order to avoid death. A man not having the power of his own life he writes cannot by compact or his own consent enslave himself to anyone. No body can give more power than he has himself and he that cannot take away his own life can not give another power over it. As among the ancient Jews men can sell themselves into temporary service to requite a debt. But this was a kind of drudgery not slavery the per-

son sold was not under an absolute arbitrary despotical power for the master could not have the power to kill him at any time whom at a certain time he was obliged to let go free out of his service. No Jew Aquinas concurs could own a Jew as a slave absolutely but only in a restricted sense as a hireling for a time. And in this way the Law permitted that through stress of poverty a man might sell his son or daughter.

Absolute slavery for Locke is nothing else but the state of war continued between a law ful conqueror and a captive. It is lawful he thinks to kill a violent aggressor for to that hazard does he justly expose himself whoever introduces a state of war and is aggressor in it. But he who has forfeited his life necessarily forfeits his freedom. Slaves then are those who being captives taken in a just war are by right of nature subjected to the absolute dominion and arbitrary power of their masters. In contrast to the limited servitude which a man can contract for wages absolute slavery is the effect only of forfeiture which the aggressor makes of his own life when he puts himself into the state of war with another.

Against Locke and Hobbes as well as Aristotle Rousseau denies that there is any justice in slavery—by nature by covenant or compact or by right of war. To think as Hobbes appears to that the child of a slave comes into the world as a slave is in Rousseau's opinion to say that a man shall come into the world not a man. Holding that slavery is contrary to nature Rousseau also holds that it cannot be authorized by any right or law. A man can not alienate his freedom by selling himself into slavery for to renounce liberty is to renounce being a man.

In Kant's language a contract by which the one party renounces his whole freedom for the advantage of the other ceasing thereby to be a person and consequently having no duty even to observe a contract is self contradictory and is therefore of itself null and void. Agreeing that such a contract is a nullity Hegel holds that the slave has an absolute right to free himself but he adds that if a man is a slave his own will is responsible for his slavery. Hence the wrong of slavery lies at the door not simply of enslavers or conquerors but of the slaves and the conquered themselves.



As for Grotius and the others who find in war another origin for the so called right of slavery —on the ground that the victor having the right of killing the vanquished the latter can buy back his life at the price of his liberty —Rousseau thinks their argument begs the question. The right of conquest he says has no foundation other than the right of the strongest. If war does not give the conqueror the right to massacre the conquered peoples the right to enslave them cannot be based upon a right which does not exist.

Since Rousseau denies that victory gives the victors a right to kill those who have laid down their arms he regards it unfair to make the captive buy at the price of his liberty his life over which the victor holds no right. From whatever aspect we regard the question he concludes the right of slavery is null and void not only as being illegitimate but also because it is absurd and meaningless. The words *slave* and *right* contradict each other and are mutually exclusive.

IN MODERN AS WELL AS ANCIENT TIMES in the European colonies in the New World if not in Europe itself slave labor characterizes a certain type of economy and determines the mode of production especially in agriculture and mining. The slave as chattel is bought and sold like other property. He may be a source of profit to his owner in exchange as well as in production. The traffic in slaves depends upon an original acquisition either through the spoils of war or by the activity of slave traders who hunt men as if they were animals to transport them in chains and sell them into slavery.

In the ancient world individual slave owners emancipated their slaves even as under modern feudalism a great landowner like Prince Andrew in *War and Peace* freed his serfs. Aristotle speaks of those in his own time who opposed the institution of slavery and the Roman Stoics did a great deal to ameliorate the condition of the slave and to protect him legally against abuse. But there seems to have been no political party or active political movement among the ancients corresponding to the abolitionists and their struggle in the 18th and 19th centuries. Even then however the abolitionists were looked upon as a radical minority who had no

respect for the rights of property in their over zealous sentimentality about the rights of men. Those who were willing to outlaw the African slave trade as outrageous were less outraged by the treatment of men as chattel once they were possessed.

Madison for example referring to the prohibition affecting the importation of slaves into the United States which the Constitution postponed until 1808 thinks it a great point gained in favor of humanity that a period of twenty years may terminate forever within these States a traffic which has so long and so loudly upbraided the barbarism of modern policy. But in another paper the writers of *The Federalist* present their version of the Southern argument defending the Constitution's apportionment of representation determined by adding to the whole number of free persons including those bound to service for a term of years and excluding Indians not taxed three-fifths of all other persons. They do not object to the view of the negro slave as two-fifths property and three-fifths a person confessing themselves reconciled to reasoning which though it may appear a little strained in some points appeals to a principle they themselves approve namely that government is instituted no less for the protection of property than of persons.

There are even those in the 18th century who defend the slave trade. Boswell reports an argument set forth by Dr. Johnson in favor of granting liberty to a negro who claimed his freedom before a Scottish Court of Session. The sum of Dr. Johnson's argument according to Boswell came to this: No man is by nature the property of another the defendant is therefore by nature free. The rights of nature must be in some way forfeited before they can be justly taken away and if no proof of such forfeiture can be given we doubt not but the justice of the court will declare him free. Admitting that Johnson may have been right in the particular case at hand Boswell protests his general attitude toward slavery and the slave trade.

To abolish a status Boswell writes which in all ages God has sanctioned and man has continued would not only be robbery to an innumerable class of our fellow-subjects but it

would be extreme cruelty to the African savages a portion of whom it saves from massacre or intolerable bondage in their own country and introduces into a much happier state of life especially now when their passage to the West Indies and their treatment there is humanely regulated

Issues of justice aside economists like Smith and Marx question the productivity of slave labor Improvements in machinery are least of all to be expected writes Smith when the proprietors employ slaves for their workmen The experience of all ages and nations I believe demonstrates that the work done by slaves though it appears to cost only their maintenance is in the end the dearest of any A person who can acquire no property can have no interest but to eat as much and to labor as little as possible He explains the lack of mechanical progress in Greece and Rome by the fact that slaves are very seldom inventive and all the most important improvements in machinery or in the arrangement and distribution of work which facilitate and abridge labor have been the discoveries of free men

Marx also judges production by slave labor to be a costly process The principle universally applied in this method of production is to employ the rudest and heaviest implements and such are difficult to damage owing to their sheer clumsiness In the slave states bordering on the Gulf of Mexico down to the date of the civil war ploughs constructed on old Chinese models which turned up the soil like a hoe or a mole instead of making furrows were alone to be found

But Marx does not limit his judgment of slavery to criteria of efficiency nor does he limit his consideration of servitude to its more obvious forms of chattel slavery and feudal serfdom For him all use of labor by those who own the instruments of production involves exploitation it differs only in the degree to which the owner derives a surplus value from the labor power he possesses through property rights or wage payments

According to Marx the essential difference between the various economic forms of society between for instance a society based on slave labor and one based on wage labor lies only in

the mode in which this surplus labor is in each case extracted from the actual producer the laborer As all the value produced by a slave in excess of the cost of keeping him alive profits his owner so during the period of surplus labor the usufruct of the labor power creates a value for the capitalist that costs him no equivalent In this sense it is that surplus labor can be called unpaid labor —whether it is the labor of chattel or wage slaves

Because a laborer is forced to sell his labor power in the open market in order to subsist Marx regards his so-called 'freedom' as a pious fiction The contract by which he sold to the capitalist his labor power proved in black and white Marx writes that he disposed of himself freely The bargain concluded it is discovered that he is no free agent that the time for which he is free to sell his labor power is the time for which he is forced to sell it

Others take the view that there is a fundamental moral difference between chattel slaves and men who work for wages Hobbes for example thinks that between slaves who are bought and sold as beasts and servants to whose service the masters have no further right than is contained in the covenants made between them there is only this much in common — that their labor is appointed them by another In slightly varying terms Aquinas Locke and Kant make a similar distinction between the free servant or paid worker and the slave The point is summarized by Hegel as a difference between alienating to someone else products of my particular physical and mental skill and alienating the whole of my time as crystallized in my work In the latter case I would be making into another's property the substance of my being

Debating with Douglas Lincoln insisted that political freedom was the difference between the white slaves of the North and the black slaves of the South The legal right won by the proletariat to organize and strike seems to be a difference which Marx himself recognizes between the wage earner and the bonded slave Until his chains are struck the slave is not in the position of the free worker in to fight for political rights and privileges Citizen ship is not always extended to the laboring classes but it is never conferred upon slaves

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To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Iliad* bk II [265-283] 12d the number 4 is the number of the volume in the set, the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page; the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART, BOOK, SECTION) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* bk II [265-283] 12d.

**BIBLICAL REFERENCES.** The references are to book, chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verse the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) *II Esdras* 7 46.

**SYMBOLS.** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference. *passim* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

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5 ARISTOTEL *Plutarch* [1-8] 629a

6 HERODOTUS *Histories* 7 BK 21b BK XIV 124 d BK V 223 d

7 PLATO *Lysis* 16 18a / *Gorgias* 271 / *Theaetetus* 518 d / *Statesman* 597a b / *Laws* BK V 709 710 BK XI 772a 773

8 ARISTOTEL *Metaphysics* BK I CH [98 5 7] 501a

9 ARISTOTEL *Ethics* BK VI 11 [61 30-10] 413c d BK X 11 6 [77 6-0] 431c /

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10 HIPPOCRATES *Airs Waters Places* p 1 15d 16a

12 EPICTETUS *Discourses* BK I CH 19 126a CH 9 137 d

13 PLUTARCH *Lycurgus* 46c-47a / *Lycurgus* *Numerals* 62a / *Cicero* 185b-186a / *Marius* C 10 278b 279a 287b d / *Cicero* 439a

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18 AUGUSTINE *City of God* BK XX 115 521a-c

19 AQUINAS *Summa Theologiae* RT I Q 21 A 2 P 3 124b 125b Q 8 A 3 REP 430c 431d Q 92 A 1 R 2 488d-489d Q 96 A 4 512d 513c P RT I Q 1 A 4 R 3 618a d

20 AQUINAS *Summa Theologiae* PART I Q 98 A 6 R P 244c 245b 11 4 A R P 3 304a 305a A 4 ANS 305d 307c Q 105 A 4 and REP 11 4 318b 321a PART II Q 1 A R P 3 434c 435d 11 183 A 1 625 626a

22 CHURCH OF ROME *Tridentine* par 65-67 531 532a

23 HOBBS *Leviathan* ART 110b 111a PART IV 261d 262

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- 35 LOCKE *Civil Government* CH IV 29d 30b CH VII SECT 8j 43c d CH XV SECT 172 174 65b d
- 38 MONTESQUIEU *Spirit of Laws* BK XV 109a 111d 112a 114a ■
- 38 ROUSSEAU *Social Contract* BK I 388a c 389a 390d
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- 48 MELVILLE *Moby Dick* 3b
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- 51 TOLSTOY *War and Peace* BK V 211a 213a BK VII 277a 287a par 278c 280b 281d BK X 410 421c EPILOGUE I 654a 655c

2 The theory of natural slavery and the natural slave

- 7 PLATO *Laws* BK VI 709a 710a
- 9 ARISTOTLE *Politics* BK I CH 2 [1252 24 b12] 445b d CH 3-6 446d-449b CH 8 [1256 20-25] 450c BK VII CH 14 [1333 38 1334 2] 538d
- 12 TRIGGETT *Discourses* BK I CH 13 120b-c
- 18 AUGUSTINE *City of God* BK XIX CH 15 521a c
- 19 AQUINAS *Summa Theologica* PART I Q 96 A 4 512d 513c
- 20 AQUINAS *Summa Theologica* PART II Q 94 A 5 REP 3 224d 225d
- 22 CHUCER *Parson's Tale* par 65-67 531a 532a
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- 35 LOCKE *Civil Government* CH IV 29d 30b CH VI SECT 54 36c
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- 38 ROUSSEAU *Social Contract* BK I 388a-c
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- 43 FEDERALIST NUMBER 54 170c d
- 44 BOSWELL *Johnson* 363c 364a
- 46 HEGEL *Philosophy of Right* PART I par 57 26b 27a ADDITIONS 36 122b-c / *Philosophy of History* INTRO 198a 199c

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- 611 ODOTUS *History* BK I 124a d
- PLATO *Laws* BK VI 709a 710a

- 9 ARISTOTLE *Ethics* BK VIII CH II [1161 30-310] 413c d BK X CH II [1177 1 11] 431c / *Politics* BK I CH 2 [1252 24 b12] 445b d CH 5 [1254 15 1255 3] 448b c CH 13 454a-455a c BK III CH 9 [1280 30 34] 477d-478a BK IV CH 4 [1291 7 10] 490b BK VII CH 7 [132 19-31] 531d 532a CH 10 [1330 25 34] 534d CH 11 [1334 16-40] 539a ■
- 10 HIPPOCRATES *Airs Waters Places* par 16 15d 16a
- 14 PLUTARCH *Crisis* 439b-c
- 23 HOBBS *Leviathan* PART I 94b-c
- 38 MONTESQUIEU *Spirit of Laws* BK XV 110c 111b BK XVII 122a b 123a b 124c d
- 38 ROUSSEAU *Inequality* 347a d / *Social Contract* BK I 388b-c
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- 50 MARX *Capital* 95a b [fn 1]
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- 7 PLATO *Laws* BK VI 709a 710a BK XI 772a 773a
- 9 ARISTOTLE *Ethics* BK VIII CH II [1161 30-310] 413c d / *Politics* BK I CH 4 447b-c CH 5 [1254 15 26] 448b
- 19 AQUINAS *Summa Theologica* PART I Q 96 A 4 512d 513c PART II Q 20 A 6 REP 3 716b d
- 42 KANT *Science of Right* 445c 446a
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- OLD TESTAMENT *Genesis* 9-25
- APOCRYFAL *Eccelesiasticus* 33-34 31-(D) OT *Eccelesiasticus* 33-25 33
- NEW TESTAMENT *Ephesians* 6 5-9 / *Colossians* 3 22 4 1 / *1 Timothy* 6 1 3 / *Philemon*
- 18 AUGUSTINE *City of God* BK XIX CH 15 521a-c
- 19 AQUINAS *Summa Theologica* PART I Q 9 A 1 EP 2 488d-489d Q 96 A 4 512d 513c
- 20 AQUINAS *Summa Theologica* PART II Q 94 A 5 REP 3 224d 225d Q 105 A 4 ANT and RE 1-4 318b 321a
- 22 CHUCER *Parson's Tale* par 65-67 531a 532a
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- 35 LOCKE *Civil Government* CH II SECT 4 25d 26 II 1 29d 30b CH XV SECT 172 65b c
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- 38 ROUSSEAU *Inequality* 357c 358b / *Political Economy* 368a / *Social Contract* bk 1 389a  
 42 KANT *Science of Right* 401c-402a 445-446a  
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 43 MILL *Liberty* 316b d  
 44 BO WELL *Johnson* 363 364a  
 48 MELVILLE *Moby Dick* 3b

## 2d Criticisms of the doctrine of natural slavery

- 9 ARISTOTLE *Politics* bk 1 ch 3 [1253<sup>b</sup>2 23]  
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 12 EPICETUS *Discourses* bk 1 ch 13 120b c  
 11 AQUINAS *Summa Theologica* PART I Q 96 A 4 512d 513c  
 20 AQUINAS *Summa Theologica* PART II Q 94 A 5 REP 3 224d 225d  
 22 CHURCH PARSONS *Tale* par 65-67 531a 532a  
 11 HOBBS *Leviathan* PART I 94b c  
 35 LOCKE *Civil Government* CH VI SECT 54 36c ch xv SECT 17 65b  
 11 MONTAIGNE *Spirit of Laws* bk xv 109a 110d 111 bk xvii 124b c  
 11 ROUSSEAU *Equality* 347a d 356b 357a 357c 358b / *Political Economy* 368a / *Social Contract* bk 1 388a 390d  
 11 KANT *Science of Right* 401b-402a 421c-422d 445c-446a  
 43 DECLARATION OF INDEPENDENCE [7-9] 1a  
 43 MILL *Liberty* 316b d  
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 50 MARK *Capital* 23c d

## 3 Slavery as a social institution the conventionality of slavery

- 7 PLATO *Laws* bk vi 709a 710a  
 11 ARISTOTLE *Politics* bk 1 ch 3 [1253<sup>b</sup>20-21] 447a ch 6 448c 449b bk vii ch 10 [133 33 34] 534d  
 14 PLUTARCH *Lycurgus* 46c-47a / *Lycurgus* 11ma 62a / *Coelius* 185b 186a  
 15 TACITUS *Annales* bk xiii 132a-c  
 20 AQUINAS *Summa Theologica* PART I Q 94 A 5 REP 3 224d 225d Q 105 A 4 ANS nd RE 1 316b 321a  
 22 CHURCH PARSONS *Tale* par 65-67 531 532a  
 23 HOBBS *Leviathan* PART I 94b  
 11 LOCKE *Civil Government* ch v 29d 30b ch vii SECT 85 43c d ch xv CT 7 65b-c  
 38 MONTAIGNE *Spirit of Laws* bk xv 109a 115d bk xvii 122a 124d  
 38 ROUSSEAU *Equality* 347a d / *Social Contract* bk 1 387b d 390d bk iii 422 d  
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 40 GIBSON *Decline and Fall* 16c 17b 620a c 628d  
 41 GIBSON *Decline and Fall* 45b

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 43 MILL *Liberty* 316b d / *Representative Government* 332c d 339d 340c 428c 430 d / *Utilitarianism* 467a  
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 50 MARK *Capital* 113d 114a 114d [ln 3] 145c 146a 361b [ln 1] 364a 366a  
 54 FREUD *New Introductory Lectures* 882d

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- OLD TESTAMENT *Genesis* 44 1-1 / *Exodus* 21-6 esp 2 5-6 / *Leviticus* 25 39-55 / *Deuteronomy* 15 12 17c p 15 16-17 / *I Kings* 9 2 - (D) III Kgs 9 22 / *II Chronicles* 28 8-15 - (D) II Paralipomenon 28 8-15 / *Nehemiah* 5 1 12 - (D) II Esdras 5 1-12  
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 5 AISTOIAN *Plutus* [144 148] 630d [507-5] 6135a b  
 7 PLATO *Republic* bk viii 404a / *Laws* bk vi 772a 773a 780b c 783b  
 9 ARISTOTLE *Politics* bk 1 ch 6 448c 449b ch 7 [1253<sup>b</sup>37 40] 449 ch 11 [1256<sup>b</sup> 0-5] 450c kv 1 c 4 [1333<sup>b</sup>38-1334<sup>a</sup>] 538d  
 12 EPICETUS *Discourses* bk 1 ch 19 126a  
 14 PLUTARCH *Marcus Cato* 278b 279a 287b d  
 20 AQUINAS *Summa Theologica* PART I Q 105 A 4 ANS nd R P 1 4 318b 321a  
 22 CHURCH PARSONS *Tale* par 65 67 531a 532a  
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 35 LOCKE *Civil Government* CH IV SECT 22-23 30a b ch v SECT 85 43c d ch xv s CT 17 74 65b d  
 38 MONTAIGNE *Spirit of Laws* bk x 62d 63 kv 109b 111a  
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 40 GIBSON *Decline and Fall* 16 d 144b 147 b 402b 510d 511a 620a-c 628d 880d [ln 96]  
 41 GIBSON *Decline and Fall* 45b 551d 552c  
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 43 CONSTITUTION OF THE US ART I s 9 [60-66] 13d  
 43 FEDERALIST NUMBER 42 137b-c  
 44 BOSWELL *Johnson* 363c 364c

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46 HEGEL *Philosophy of Right* PART I par 57 26b 27a / *Philosophy of History* PART I 216a b PART II 276d 277a

50 MARY *Capital* 114d [fn 3] 128d 129a 361b [fn 1] 364a 366a esp 364c 365b 376c 377a

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- 3b *Laws regulating slavery the rights and duties of master and slave*

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OT *Ecclesiasticus* 4 35 33 25-33

NEW TESTAMENT *Ephesians* 6 5-9 / *Colossians* 3 22 4 1 / *1 Timothy* 6 1-3 / *Titus* 2 9 10 / *Philemon* / *1 Peter* 2 18

5 ARISTOPHANES *Clouds* [1 7] 488a / *Frogs* [605-628] 571a b

6 HERODOTUS *History* BK I 21b BK VII 223c d

7 PLATO *Gorgias* 271c / *Theaetetus* 528c d / *Laws* BK VI 709a 710a BK IX 757c d BK XI 772a 773a 780b c 783b c

9 ARISTOTLE *Politics* BK I CH 7 [1255<sup>b</sup> 0 37] 449b c CH 13 [1260<sup>b</sup> 1<sup>b</sup>8] 454d 455a = BK III CH 4 [1277 30-31] 474b c BK VII CH 10 [133 33 34] 534d

11 PLUTARCH *Lycurgus Numa* 62a / *Coriolanus* 185b 186a / *Marcus Cato* 287b d / *Craesus* 439a c

15 TACITUS *Annals* BK II 30b c BK XII 121d 122a BK XIII 133c BK XIV 151d 152c

19 AQUINAS *Summa Theologiae* PART I Q 81 A 3 REP 2 430c-431d

20 AQUINAS *Summa Theologiae* PART I II Q 101 A 4 ANS 306d 307c Q 105 A 4 AN and R 1 4 318b 321a PART II II Q 10 A 10 REP 3 434c-435d n 189 A 5 ANS 693b 694c

22 CHAUCER *Parson's Tale* par 65-67 531a 532a

29 CERVANTES *Don Quixote* PART I 280

35 LOCKE *Civil Government* CH IV SECT 22 23 30a b CH VII SECT 8, 43c d

38 MONTESQUIEU *Spirit of Laws* BK XV 112 115b

39 SMITH *Wealth of Nations* BK IV 253c 254a 298c 299a

40 GIBSON *Decline and Fall* 16d 17a 620a c 4 1047 *Science of Right* 400b d-402 421c 422d

43 CONSTITUTION OF THE US ARTICLE IV SECT 2 [529-535] 16b

43 FEDERALIST NUMBER 4 137b-c NUMBER 54 170b 171b

43 MILL *Liberty* 316b d / *Utilitarianism* 467a

46 HEGEL *Philosophy of Right* ADDITIONS 99 133a / *Philosophy of History* PART I 216a b PART II 276d 277a

50 MARY *Capital* 364c 365b

51 TOLSTOY *War and Peace* BK V 197c 215a d 216 d

- 3c *The emancipation or manumission of slaves the rebellion of slaves*

OLD TESTAMENT *Exodus* 1 14 21 2 4 / *Leviticus* 25 39-55 / *Deuteronomy* 15 = 15 23 15 16 26 5 9 / *II Chronicles* 28 8 15-(D) / *Paralipomenon* 28 15 / *Jeremiah* 34 8-17-(D) *Jeremiah* 34 8 17

11 HERODOTUS *History* BK II 71b c BK III 117a c 118a 119b BK IV 124a d

6 THUCYDIDES *Peloponnesian War* BK III 435b BK IV 467a b

7 PLATO *Republic* BK IV 420a b / *Laws* BK XI 772a b

9 ARISTOTLE *Politics* BK II CH 9 [1269<sup>a</sup> 9<sup>b</sup>13] 465b d CH 10 [1272<sup>b</sup> 17-19] 469a BK V CH II [1315 32-39] 518b BK VII CH 10 [1330 33 34] 534d

12 EPICETUS *Discourses* BK II CH I 139d BK IV CH I 214c d

15 TACITUS *Annals* BK IV 70c d BK XIII 132a c

20 AQUINAS *Summa Theologiae* PART I II Q 1 5 A 4 ANS and REP I 3 318b 321a

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40 GIBSON *Decline and Fall* 16d 17b 144a d 505c 509a 628c d

41 GIBSON *Decline and Fall* 82a b 432d 453a c

43 CONSTITUTION OF THE US AMENDMENTS XIII SECT I XIV SECT I 18c

43 MILL *Representative Government* 332c d 340a c 351d 352b

44 BOSWELL *Johns* = 364a b

46 HEGEL *Philosophy of History* INTRO 199c PART II 273c 277a

50 MARY *Capital* 145c 146a

51 TOLSTOY *War and Peace* BK V 211a 213a 216c d BK VI 235 BK X 410c-421c BK XV 640b c

- 3d *Criticisms of the institution of slavery the injustice of slavery its transgression of natural enable human rights*

9 ARISTOTLE *Politics* BK I CH 3 [1253<sup>b</sup> 20-31] 447 CH II 448c-449b

11 EPICETUS *Discourses* BK I CH 13 120b c

14 PLUTARCH *Lycurgus* 46c-47a / *Lycurgus Numa* 62a / *Coriolanus* 185b-186a / *Marcus Cato* 278d 279c

22 CHAUCER *Parson's Tale* par 65-67 531a 532a

23 HOBBS *Leviathan* PART I 94b-d

35 LOCKE *Civil Government* CH I IV 25d 30b c CH IV 29d 30b

38 MONTESQUIEU *Spirit of Laws* BK X 62d 63a BK XV 109a 110d

38 ROUSSEAU *Inequality* 357c 358b / *Politics* 1d

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- 39 SMITH *Wealth of Nations* BK I 34b-c BK III 167a c BK IV 298c 299a
- 40 GIBSON *Decline and Fall* 620b-c
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- 5a The disenfranchisement of chattel slaves and efforts their exclusion from the body politic or political community
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## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups

I Works by authors represented in this collection

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## Chapter 88 SOUL

### INTRODUCTION

IN the language of the poets as well as in the discourse of the philosophers body and soul are correlative terms. Each affects the meaning of the other. The words are used together in daily speech. Men who are unaware of or deny the metaphysical and theological significance of having a soul nevertheless use the word soul with a sense of contrast to body even if only to refer to vague manifestations of spirit—feelings and sympathies which seem to be alien to the world of matter.

With few exceptions traditional theories of the soul involve its distinction from and relation to the body. Berkeley represents one of the major exceptions. Denying the reality of matter he conceives the soul as existing in and by itself. Souls or spirits differ from God as finite from infinite spiritual beings. The something which knows and perceives and which executes divers operations as willing, imagining, remembering, Berkeley says "what I call *mind, spirit, soul, or myself*." Berkeley therefore would not speak of himself or other men as having souls but rather as *being* souls.

The other major exception is exemplified by Lucretius. It is not that Lucretius denies soul as Berkeley does the body. Nor does he deny that soul adds something to body which differentiates living organisms from inorganic things. On the contrary he declares the mind to be a part of man no whit less than hand and foot and eyes are parts of the whole living being. Distinct from mind, soul is also part of a living being. Mind and soul are held in union one with the other and form of themselves a single nature but whereas the mind is as it were the lord or head of the whole body, the rest of the soul spread abroad throughout the body obeys and is moved at the will and inclination of the mind.

But when Lucretius refers to mind and soul

as parts of the body he means no more than is implied in speaking of the hand and eye as parts of the body. The nature of mind and soul is bodily, he writes. Just as flesh and bones are composed of atomic particles so the mind is formed of atoms exceeding small and smooth and round and the soul is made of very tiny seeds linked together throughout veins, flesh and sinews.

APART FROM THESE exceptions the traditional discussion of soul considers it as somehow conjoined with body to constitute a whole of which it is the immaterial principle or part. Even those who like Descartes define the soul as an immaterial substance capable of existing by itself do not actually ascribe to the human soul complete independence of the human body. Nor do the theologians who think of God as a purely spiritual being and of angels as immaterial substances attribute soul to them.

Precisely because God and the angels do not have bodies neither do they have souls. Whether every thing which has a body also has a soul is another question. It is variously answered but certainly those who like Plato and Plotinus speak of a world soul or a soul of the universe confirm the point that soul is the co-principle or complement of body. The same point appears in theories of the celestial bodies which conceive them as being alive and as therefore having souls.

Unfolding to Socrates the story of the creation Timaeus says. Using the language of probability we may say that the world became a living creature endowed with soul and intelligence by the providence of God. To the world Timaeus explains God gave a body smooth and even having a surface in every direct or quadrant from the center a body entire and perfect and formed out of perfect

bodies. And in the center he put the soul which he diffused throughout the body, making it also to be the exterior environment of it.

Comparing the magnetic force of the lodestone with the animation of a soul, Gilbert says that this one eminent property is the same which the ancients held to be a soul in the heavens in the globes and in the stars in sun and moon. The ancient philosophers all seek in the world a certain universal soul and declare the whole world to be endowed with a soul. Aristotle held that not the universe is animate but the heavens only. As for us, Gilbert writes, we deem the whole world animate and all globes, stars, and this glorious earth too we hold to be from the beginning by their own destinate souls governed. Pitiable is the state of the stars, abject the lot of earth, if this high dignity of soul is denied them, while it is granted to the worm, the ant, the roach, to plants and minerals; for in that case worms, roaches, moths were more beautiful objects in nature and more perfect inasmuch as nothing is excellent nor precious nor eminent that hath not a soul.

On the question whether the earth, each heavenly body, or the whole world is endowed with life, intelligence, and soul, Kepler differs from Gilbert, Augustine from Plato and Plotinus, Aquinas from Aristotle. Nevertheless the many-sided controversy indicates the traditional connection of soul with life and mind on the one hand, and with animate or organic bodies on the other—bodies which manifest certain properties and tendencies to motion.

THE MAJOR ISSUES CONCERNING soul seem to follow from these traditional associations. Does the soul, which is somehow conjoined with a body, exist as an immaterial substance or principle in such a way that the being composed of body and soul consists of two distinct substances or entities, united as related parts of a whole? Or is the soul the substantial form of an organic body, with the consequence that the form and matter together constitute a single composite substance, which is the living thing? In the latter alternative, the unity of soul and body, according to Aristotle, is like that of the wax and the shape given to it by the die.

On either conception of soul and its relation

to body or matter, further questions arise concerning the soul's existence apart from the body. Does it exist before being united to the body? Does it exist after the union is dissolved? How does it exist when it exists separately or apart from matter? For those like Lucretius, who conceive the soul as itself composed of material particles within the framework of the body, such questions can have little meaning. For those like Plato and Descartes, who conceive the soul as an immaterial entity having being in its own right, these questions can be immediately answered in favor of the soul's capacity for separate existence. Only when the soul is conceived as a form which together with matter constitutes the substance of a living body does there seem to be both meaning and difficulty to the question whether the soul continues to endure separately when a plant, an animal, or a man dies; i.e., when such composite substances decompose.

If the individual soul ceases to be when the body with which it is somehow united perishes, it is as mortal as the body. The traditional theories of personal immortality—such as the Platonic myths concerning the transmigration or reincarnation of souls, and the Christian doctrine of man's immortal soul specially created for union with the body but destined to survive its separation from the body—are theories which involve conceptions of the soul as capable of self-subsistence. The controversy over these doctrines is dealt with in the chapter on IMMORTALITY. Here we are concerned to see how different implications for immortality necessarily follow from various theories of the soul.

Still other issues concerning soul arise in connection with other chapters. For example, the question whether soul is to be found only in living things, or only in animals but not in plants, or in man alone, is discussed in the chapters on LIFE AND DEATH and on MIND. If soul, on any conception, is the principle or cause of life, then the distinction between animate and inanimate bodies is identical with the distinction between things which have and things which do not have a soul. If furthermore the kind of life possessed by a vegetable or plant is radically different from animal life, and that in turn from human life, then souls too may be

to be differentiated in kind according to the mode of life or the range of vital powers of which each type is the principle

Some writers however tend to equate soul with mind or understanding. When as by Descartes soul is identified with rational soul or thinking substance it is usually attributed to man alone. Soul is then not thought necessary to explain the phenomena of life in plants and animals at least in no sense of soul which implies either an incorporeal or a formal principle that is anything beyond the complex interaction of organic parts. Other authors like Locke who conceive soul or understanding not merely in terms of rational thought but also in terms of sensation imagination and memory may exclude plants but not animals from the possession of soul or mind.

Descartes takes notice of these ambiguities in the traditional use of the word soul. Probably because men in the earliest times he writes did not distinguish in us that principle in virtue of which we are nourished grow and perform all those operations which are common to us with the brutes from that by which we think they called both by the single name *soul* then perceiving the distinction between nutrition and thinking they called that which thinks *mind* believing also that this was the chief part of the soul. But I perceiving that the principle by which we are nourished is wholly distinct from that by means of which we think have declared that the name *soul* when used for both is equivocal and I say that when soul is taken to mean the *primary actuality or chief essence of man* it must be understood to apply only to the principle by which we think and I have called it by the name *mind* as often as possible to avoid ambiguity for I consider the mind not as part of the soul but as the whole of that soul which thinks.

In another place he uses the word *soul* to stand for that subtle fluid styled the animal spirits which pervading the organs of brute animals accounts for the peculiar type of animation. We can recognize no principle of motion in them beyond the disposition of their organs and the continual discharge of the animal spirits that are produced by the beat of the heart as it rarefies the blood. Soul in this sense is not to be confused with the incorporeal and

spiritual nature of man's soul. It is something corporeal of a fine structure and subtle spread throughout the external body and the principle of all sensation imagination and thought. Thus there are three grades of being: Body the Corporeal or soul and Mind or spirit.

IN THE OPENING PAGES of his treatise *On the Soul* Aristotle says that to attain any assured knowledge about the soul is one of the most difficult things in the world. The difficulty seems to apply both to *what the soul is* and to *whether it exists*. The questions are connected. Even Lucretius who regards the soul as material in nature does not claim to know its existence by direct observation. It is not like the body itself or like other parts of the body a sensible object. It must be inferred to exist. Just as the existence of unobservable atoms is inferred in order to explain the constitution and change of all natural objects so the existence of soul is inferred in order to explain the constitution and motion of living things. Those who conceive the soul as immaterial—whether as substance principle or form—would seem to face an even greater difficulty in establishing its existence and in describing its nature. Admittedly the soul as some sort of immaterial being cannot be discovered by observation and experiment. The alternatives which represent traditional solutions of the problem seem to include the soul's reflexive knowledge of its own existence inferential knowledge about the soul based on observed facts various religious beliefs concerning the nature and destiny of the soul and the postulation of the soul's existence on practical not theoretic grounds.

Not all writers agree with Aristotle that the soul is an object difficult to know or with Kant that it is absolutely impossible for us to reach any sound theoretic conclusions about the soul's existence. Descartes for example says that if there are any persons who are not sufficiently persuaded of the existence of God and of the soul by the reasons which I have brought forward I wish them to know that all other things of which they perhaps think themselves more assured (such as possessing a body and that there are stars and an earth and so on) are less certain.

The argument for the soul's existence which

precedes this remark is the famous *Cogito ergo sum*— I think therefore I am. From the fact that in the very act of doubting the existence of everything else he could not doubt that he was doubting and hence thinking Descartes assures himself of his own existence or more precisely of the existence of himself as a thinking being. I knew he writes that I was a substance the whole essence or nature of which is to think and that for its existence there is no need of any place nor does it depend on any material thing so that this me that is to say the soul by which I am what I am is entirely distinct from body and is even more easy to know than the latter and even if the body were not the soul would not cease to be what it is.

Locke appears to agree that if I doubt of all other things that very doubt makes me perceive my own existence and will not suffer me to doubt of that. I have as certain perception of the existence of the thing doubting he goes on as of that thought which I call doubt. Experience then convinces us that we have an intuitive knowledge of our own existence and an internal infallible perception that we are.

But Locke does not turn the proposition that a thinking being exists into the assertion that a spiritual being the soul as an immaterial substance exists. We have the idea of matter and thinking he writes but possibly shall never be able to know whether any mere material being thinks or no it being impossible for us by the contemplation of our own ideas without revelation to discover whether Omnipotency has not given to some systems of matter fitly disposed a power to perceive and think or else joined and fixed to matter so disposed a thinking immaterial substance it being in respect of our notions not much more remote from our comprehension to conceive that God can if he pleases superadd to matter a faculty of thinking than that he should superadd to it another substance with a faculty of thinking.

For Locke however our idea of soul is as clear as our idea of body. Our idea of body he says, is an extended solid substance capable of communicating motion by impulse and our idea of soul as an immaterial spirit is of a substance that thinks, and has a power of exciting

motion in body by willing or thought. I know that people whose thoughts are immersed in matter and have so subjected their minds to their senses that they seldom reflect on any thing beyond them are apt to say that they cannot comprehend a thinking thing which perhaps is true but I affirm when they consider it well they can no more comprehend an extended thing. And in another place he adds.

If this notion of immaterial spirit may have perhaps some difficulties in it not easy to be explained we have therefore no more reason to deny or doubt the existence of such spirits, than we have to deny or doubt the existence of body because the notion of body is cumbered with some difficulties very hard and perhaps impossible to be explained or understood by us.

Berkeley differs from Locke not only in maintaining that we have no idea of matter at all but also in holding that if we use the word

idea for sense impressions or the images derived from them we can have no idea of soul or spiritual substance. But we can he thinks, form what he calls a notion of the soul which grasps the meaning of the word spirit as signifying that which thinks wills or perceives. He differs from Locke further in proportion as he tends to agree with Descartes, asserting that the existence of a spiritual substance a thinking being necessarily follows from the undeniable existence of thinking itself.

For both Descartes and Berkeley the immortality of the soul can be directly concluded from our knowledge of the soul's existence and nature. The soul writes Berkeley is indivisible incorporeal unextended and it is consequently incorruptible. Nothing can be plainer than that the motions changes decays and dissolutions which we hourly see befall natural bodies cannot possibly affect an active simple uncompounded substance such a being therefore is indissoluble by the force of nature that is to say the soul of man is naturally immortal.

The arguments in Plato's *Phaedo* for the proper existence of the soul before it joins a particular body and for its existence after it leaves the body to dwell apart before entering another body—arguments in short for the

soul's immortality—seem to stem from a slightly different principle. It is not merely that the soul is simple or uncompounded and hence indissoluble or that the knowledge we have of the absolute ideas requires us to posit a principle of knowledge other than the bodily senses which can apprehend only changing things. In addition Socrates argues that the knower must be like the known. If it is the soul which knows the unchangeable and eternal essences it must be as unchangeable and eternal as they are. When the soul uses the body as instrument of perception, Socrates says it is then dragged by the body into the region of the changeable.

But when returning into herself she reflects then she passes into the other world, the region of purity and eternity and immortality and unchangeableness which are her kindred.

AGAINST ANY FORM of argument for the existence and immortality of the human soul which proceeds from the nature of our thought or knowledge Kant takes the position that the premises do not warrant the conclusion. He claims to expose the fallacies in what he calls the paralogism of a rational psychology. The I of the *Cogito ergo sum* may be the necessary logical subject of all our judgments but this does not give us intuitive knowledge of a really existing substance which has the attributes of simplicity, spirituality and permanence or immortality.

In all our thinking Kant writes the I is the subject in which our thoughts are inherent nor can that I ever be used as a determination of any other thing. Thus everybody is constrained to look upon himself as the substance and on thinking as the accident of his being. But he goes on though the I exists in all thoughts not the slightest intuition is connected with that representation by which it might be distinguished from other objects of intuition. Hence it follows that in the first syllogism of transcendental psychology reason imposes upon us an apparent knowledge only by representing the constant logical subject as the knowledge of the real subject in which that knowledge inheres. Of that subject however we have not and cannot have the slightest knowledge. In spite of this the proposition that the soul is a substance may well be allowed

to stand if only we see that this concept cannot help us on in the least or teach us any of the ordinary conclusions of rational psychology as for instance the everlasting continuance of the soul amid all changes and even in death and that it therefore signifies a substance in idea only and not in reality.

Similarly with respect to the simplicity of the soul Kant contends that the absolute but merely logical unity of apperception or thought is illegitimately converted into the absolute unity of a real substance. The proposition *I am a simple substance* he declares teaches us nothing at all with reference to myself as an object of experience. Its only value is to enable us to distinguish the soul from all matter and thus to exempt it from that decay to which matter is at all times subject.

To this extent rational psychology may guard our thinking self against the danger of materialism. The concept of the soul as an immaterial and simple substance may thus function regulatively but we deceive ourselves with the illusion of knowledge when we treat that concept as if it had intuitive content—when as he says we change thoughts into things. Kant does not deny that the I is substantial in concept or simple in concept. Though these propositions are incontestably true he says nevertheless what we really wish to know of the soul becomes by no means known to us in that way because all these predicates are with regard to intuition non valid entailing no consequences with regard to objects of experience and therefore entirely empty.

The existence and immortality of the soul is for Kant a postulate or demand of the practical reason. Of the psychic substance regarded as an immortal soul it is absolutely impossible to obtain any proof from a theoretical point of view but if such an object must be thought a priori in order for pure practical reason to be used as duty commands it becomes what Kant calls matter of faith. Immortality seems to him rationally required as the practically necessary condition for the fulfillment of the moral law and the endless progress of the soul toward holiness of will.

William James questions even such practical arguments for the soul. The imperishability of



a simple substance does not he thinks guarantee immortality of a sort *we care for*. Nor following Locke does it seem to him that a substantial soul is required for personal identity and moral responsibility. Writing as an empirical or scientific psychologist who feels entirely free to discard the word Soul because he finds the concept useless so far as accounting for the actually verified facts of conscious experience goes James tells those who may find any comfort in the idea that they are perfectly free to continue to believe in it for our reasonings have not established the non-existence of the Soul they have only proved its superfluity for scientific purposes.

**JAMES CONCLUDES THAT** the substantial Soul explains nothing and guarantees nothing alone with the arguments of Kant and Locke may not apply to the soul conceived as the principle of life rather than as the agent of thought or to the soul conceived as the form of an organic body rather than as a spiritual being associated with or somehow imprisoned in the body. Precisely because this other conception affirms reality of soul as something other than a complete substance precisely because it applies to plants and animals as well as men this other conception of soul would seem to require a different sort of criticism.

The Greek and Latin words—*psyche* and *anima*—which we translate by soul seem to have life as their primary connotation. In the *Cratylus* Socrates suggests that those who first used the name *psyche* meant to express that the soul lies in the body as the source of life and gives the power of breath and revival. Other dialogues express the Greek conception of the living thing as that which has the power of self-motion and ascribes this power to the soul as source. In the *Phaedrus* for example Socrates asks: What is that the inference of which will render the body alive? to which Cebes answers: Soul and agrees with Socrates further statement that whatever the soul takes possession of to that he comes breathing life. In the *Lysis* Cleinias having identified the power of self-motion with life the Athenian Stranger gains his assent to the proposition that whatever has life or self-motion also has soul.

To this much Aristotle also agrees. What has soul in it he says differs from what has not in that the former displays life to which he adds that living may mean thinking or perception or local movement or movement in the sense of nutrition and growth so that we must think of plants also as living and as having souls. But Aristotle goes further in defining soul as the cause of life and in differentiating three kinds of souls—vegetative sensitive and rational—according to the vital powers manifested by the activities of plants, animals and men. he uses his general theory of corporeal substances to state precisely what the soul is and how it is related to the body.

Corporeal substances are according to him all composite of two principles form and matter. What is called matter is potentiality what is called form actuality. As exemplified in works of art wood is the matter which has the potentiality for a certain shape and a certain function that is the actuality or form of a chair. In the case of natural things that which determines the essential whiteness of a body is its form or as Aristotle sometimes says its formulable essence.

If living things are essentially distinct from inert bodies as Aristotle supposes them to be then the forms which determine their essence must be different from the forms of inanimate substances. It is this difference in forms which Aristotle appropriates the word soul to signify. In each kind of living thing the soul is the substantial form or the first grade of actuality of a natural body having life potentially in it.

He speaks of the first grade of actuality here to distinguish merely being alive or besouled from the various acts which as operations of the vital powers constitute living. If an eye or an eye had a soul it would consist of its power to cut or to see not in its actually cutting or seeing. While nourishing or thinking is actuality corresponding to the cutting and the seeing the soul is actuality in the sense corresponding to the power of sight and the power of the tool. As the pupil plus the power of sight constitutes the eye so the soul plus the body constitutes the animal.

From this conception of soul as the form or actuality of a living substance it indubitably

follows. Aristotle says that the soul is inseparable from its body or at any rate certain parts of it are—for the actuality of some of them is nothing but the actualities of their bodily parts. Where Plato holds that the soul is prior in existence to the body Aristotle holds that soul and body come into existence together when the organism is generated. Where Plato attributes an independent mode of being to the soul distinct in character from that of bodies Aristotle says that the soul cannot be without a body. Yet it cannot be a body; it is not a body but something relative to a body. That is why it is *in* a body and a body of a definite kind—being nothing more than the actuality or formulable essence of something that possesses the potentiality of being besouled.

FURTHER CONSEQUENCES follow from these conflicting conceptions of soul. In the *Timæus* Plato advances the view that only the lowest grade of soul—the plant soul—is mortal; in contrast to the souls of animals and men Aristotle would seem to attribute mortality to every grade of soul. If any exception is to be made, it is only for the human soul because it involves the power of rational thought. Mind or the power to think, he writes, seems to be a widely different kind of soul differing as what is eternal from what is perishable.

The critical point is whether thinking unlike all other psychic powers is an activity of the soul alone. For the most part there seems to be no case in which the soul can act or be acted upon without involving the body. Thinking seems the most probable exception, but Aristotle adds, if this too proves to be a form of imagination or to be impossible without imagination, it too requires a body as the condition of its existence. If there is any way of acting or being acted upon proper to soul, soul will be capable of separate existence; if there is none, its separate existence is impossible.

Is there any way of acting or being acted upon proper to soul? Aristotle seems to answer this question affirmatively when he says that insofar as the realities it knows are capable of being separated from their matter, so is it also with the powers of mind. On one interpreta-

tion this means that the mind or intellect is as immaterial in its mode of operation as some of its objects are in their mode of being with the further consequence that what is capable of acting apart from body is also able to exist apart from body. But whether Aristotle's further statement that mind set free from its present conditions is immortal and eternal applies to the intellect alone or to the rational soul as a whole has been disputed by various interpreters. Adopting Aristotle's conception of soul as the form which is the actuality of life in an organic body, Aquinas for one seems to think that the immortality of a rational soul can be demonstrated from the special character of its intellectual powers.

A theory of the soul which regarded it as a simple and incorporeal substance or as having a being independent of the body would seem to harmonize more readily with the Christian belief in the human soul's special creation and its individual survival after death. But Aquinas rejects such a theory on the ground that then man would be two substances or two beings, not one, or else if the human person is identified with the soul, man would be a soul using a body rather than a single substance of composite nature. The doctrine of body and soul which holds them to be related as matter and form preserves the unity of man and in the opinion of Aquinas fits the way in which man learns through his senses, experiences passions, and in thinking depend upon imagination.

But though he admits that men cannot think without images, Aquinas also insists, contrary to Locke, that thinking insofar as it involves abstract concepts cannot be performed by matter. To make matter think is beyond even the power of God. Unlike nourishing or sensing, *understanding* is not and cannot be the act of a body nor of any corporeal power.

This theory—that the acts of understanding by which the intellect abstracts and receives universal concepts cannot be accounted for by the motions of the brain—is further discussed in the chapter on UNIVERSAL AND PARTICULAR. Here we are concerned simply to note that so Aquinas the fact that the concepts with which men think are universal means that they are abstracted from matter, and the fact that they are abstracted from matter means that

various acts of understanding must also be immaterial—that is not acts of bodily organs like the brain. To these premises Aquinas adds one further principle, namely that a thing's mode of being is indicated by its mode of operation. In these terms he concludes that since the intellect has an operation *per se* apart from the body, the human soul, which is called rational because of its power of understanding, can have a being *per se* apart from the body. Hence it is something incorporeal and subsistent.

Nevertheless according to Aquinas though the human soul can subsist separately, it belongs to its nature to be embodied, that is to be the form of a material substance. The soul as part of human nature, he writes, has its natural perfection only as united to the body. Therefore it would have been unfitting for the soul to be created without the body. Furthermore if the entire nature of man were to be a soul—the soul making use of the body as an instrument or as a sailor uses a ship—there would be no need for the resurrection of the body after the Last Judgment. The Christian dogma of the resurrected body more properly accords in Aquinas' view with a conception of soul united to the body as form to matter, for as he says in another place, if it is natural to the soul to be united to the body, it is unnatural for it to be without a body, and as long as it is without a body, it is deprived of its natural perfection.

In the consideration of the relation of body and soul, an opposite estimation of the body's role goes with an opposite theory of the soul's nature. Socrates in the *Phaedo* describes the body as the soul's prison house or worse, the source of the soul's contamination by the im-

purities of sense and passion. In this life, he says, we make the nearest approach to knowledge when we have the least possible intercourse or communion with the body, and are not surfeited with the bodily nature. But complete purification requires the separation of the soul from the body, the release of the soul from the chains of the body. That is why Socrates tells his friends gathered in the cell where he is to drink the hemlock, true philosophers are ever seeking to release the soul and are always occupied in the practice of dying.

It is also the opinion of Plotinus that it is ill for the soul to be in the body. But Christian theologians for the most part take a contrary view. Aquinas, for example, criticizes Origen for holding that souls were embodied in punishment of sin. To him there is nothing of a penal and afflicting nature in the soul's union with the body. Though Scripture says that the corruptible body weigheth down the soul and the earthly tabernacle presseth down the mind, Augustine interprets this to mean not that the flesh is evil in itself, but that man is beset by sin when the flesh lusteth against the spirit.

There is no need therefore, according to Augustine, that in our sins and vices we accuse the nature of the flesh to the injury of the Creator, for in its own kind and degree the flesh is good. Man is both body and soul; human nature is a thing of both flesh and spirit, and he who extols the nature of the soul as the chief good, Augustine continues, and condemns the nature of the flesh as if it were evil, is surely in fleshly both in his love of the soul and his hatred of the flesh.

## OUTLINE OF TOPICS

### 1. Conceptions of soul

- 1a Soul as the ordering principle of the universe, the world soul and its relation to the intellectual principle, the souls of the heavenly bodies
- 1b Soul as the principle of self-motion or life in living things; soul as the form of an organic body
- 1c Soul as the principle of distinction between thinking and non-thinking beings; the identity or distinction between soul and mind or intellect
- 1d Soul as the principle of personal identity; the doctrine of the self; the empirical and the transcendental ego

- 2 The analysis of the powers of the soul 801
- 2a The distinction between the soul and its powers or acts
  - 2b The order connection and interdependence of the parts of the soul the id ego and super-ego in the structure of the psyche 802
  - 2c The kinds of soul and the modes of life vegetative sensitive and rational souls and their special powers
    - (1) The vegetative powers the powers proper to the plant soul
    - (2) The sensitive powers the powers proper to the animal soul 803
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- 3 The immateriality of the soul 804
- 3a The soul as an immaterial principle form or substance
  - 3b The immateriality of the human soul in comparison with the materiality of the plant and animal soul the intellect as an incorporeal power
  - 3c The relation of soul and body the relation of formal and material principles or of spiritual and corporeal substances
  - 3d The denial of soul as an immaterial principle form or substance the atomic theory of the soul 805
  - 3e The corporeal or phenomenal manifestation of disembodied souls as ghosts wraiths or spirits
- 4 The being of the soul 806
- 4a The unity of the human soul the human mode of the vegetative and sensitive powers
  - 4b The issue concerning the self-subsistence or immortality of the human soul its existence or capacity for existence in separation from the human body
  - 4c The origin of the human soul its separate creation its emanation or derivation from the world soul 807
  - 4d The life of the soul apart from the body
    - (1) The doctrine of transmigration or perpetual reincarnation
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    - (3) The need of the soul for its body the dogma of the body's resurrection for the soul's perfection 808
    - (4) The contamination of the soul by the body the purification of the soul by release from the body
- 5 Our knowledge of the soul and its powers
- 5a The soul's knowledge of itself by reflection on its acts the soul as a transcendental or noumenal object the paradoxes of rational psychology
  - 5b The concept of the soul in empirical psychology experimental knowledge of the soul

## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Iliad* BK II [265 283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of p. 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference. Line numbers in brackets are given in certain cases e.g. *Iliad* BK II [265 283] 12d.

**BIBLE REFERENCES.** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) *II Esdras* 7 46.

**SYMBOLS.** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference. *passim* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style. For general guidance in the use of *The Great Ideas* consult the Preface.

## 1 Conceptions of soul

1a Soul as the ordering principle of the universe the world soul and its relation to the intellectual principle the souls of the heavenly bodies

7 PLATO *Critylus* 93c d / *Phaedrus* 124b d / *Apology* 204d 205a / *Phaedo* 241b 242b / *Timaeus* 447a-455d esp. 449c-450 / *Philbus* 618b 619d / *Laos* BK I 757d 765d esp. 762b 765d BK X 797 798b

8 ARISTOTLE *Metaphysics* BK II CH I [284 27 b] 376 CH II 383b 384c / *Metaphysics* BK VII CH 6 [1071<sup>b</sup> 32 1 72 3] 601d / *Soul* BK I CH 3 [4 26-407<sup>b</sup> 25] 636b 637b CH 5 [411 6 23] 641a b

12 FICHTUS *Discourses* BK I CH 14 120d 121

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13 VIRGIL *Aeneid* BK I [724 751] 230b 231a

16 KEPLER *Grammatica* BK IV 853b 856a 890a 895b 896 897a 914 b 932a 933a 959a 960a / *Harmonice of the World* 1080b 1085b esp. 1083b 1085b

17 PLOTINUS *Second Ennead* TR I CH 4 36d 37b TR II 40a 42a TR III CH 2 42c d CH 13 46c 47b CH 16-18 48b 50a TR IX CH 4 67c 68a CH 7-9 69c 72a *passim* / *Third Ennead* TR I CH 4 79d 80a TR II CH 3 84b TR IV CH 6 99d TR V CH 6 103b 104 TR VII CH II 13 126a 129a TR VIII CH 4-5 130b 131d / *Fourth Ennead* TR III CH 1 2 141c 143b CH 4 143d 144b CH 6 7 144c 145d CH 9-10 146d 148b TR IV CH 6 16 161b 166b CH 22 168d 169c TR 126-27 171b 172a CH 29 45 173b 183a *passim* TR VIII CH 1 2 200d 202a *passim* TR VIII CH 7 TR IX CH 5 204b 207a c / *Fifth Ennead* TR I CH 2 208d 209a CH 6-8 211a 213a CH 10 213c TR II CH 2 215a c TR IX CH 13 247b d CH 13 14 251a d

18 AUGUSTINE *City of God* BK IV CH II 12 194c 196a BK VII CH II 248a b CH 9 249d 250a CH 13 251c 252a CH 23 256b 257b BK XIII CH 16 367c

19 AQUINAS *Summa Theologica* PART I Q 1 A 8 ANS 19d 20c Q 18 A 1 REP 1 101c 105c Q 47 A 1 ANS 256a 257b Q 70 A 3 365b-367a

20 AQUINAS *Summa Theologica* PART III SUPPL. Q 79 A 1 ANS 951b 953b

23 HOBBS *Leviathan* PART II 162b

28 GILBERT *Lo d tone* BK II 38b BK V 104b 105d

- 23 HARVEY *On Animal Generation* 426b-429b  
 24 NEWTON *Principles* BK III B GENERAL SCI 31,  
 370a / *Optics* BK I 542b-43a  
 40 GIBSON *Decline and Fall* 767c [a 18]  
 42 KANT *Judgement* 565d  
 44 MELVILLE *Moby Dick* 115b 117a  
 45 TOLSTOY *War and Peace* BK V 216d 218b  
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 53 JAMES *Psychology* 658b 659a

1b So l as the principle of self motion or l fe  
 in li g things soul as the form of an  
 o g nic body

- 7 PLATO *Cratylus* 93b d / *Phaedrus* 124b-c /  
*Pha do* 244b 246c / *Laus* BK X 763a 764a  
 8 ARISTOTLE *T p i s* BK IV CH 6 [127<sup>b</sup>13 18]  
 177a b / *Metaphysics* K V C1 8 [101<sup>a</sup>10-17]  
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 645b  
 9 ARISTOTLE *Parts of Animals* BK I CH 1  
 [64<sup>b</sup>30-64<sup>i</sup>33] 163c 164b / *Generatio of*  
*f male* BK I CH 19 [7<sup>b</sup>15 30] 266d 267a  
 BK I CH 1 [731<sup>b</sup>9 31] 272a [733<sup>b</sup>23 35<sup>a</sup>28]  
 274a 276a CH 3 [737<sup>b</sup>8 34] 278a b CH 4  
 [738<sup>b</sup>8 27] 279 CH 4 [740<sup>b</sup>25] CH 5 [741 30]  
 281d 282b BK III CH 1 [76<sup>b</sup>18 27] 303b d  
 10 GALEN *N i m i Faculties* BK I CH 1 167a b  
 11 AURELIUS *Medatio* BK IV SECT 2 265b c  
 BK IX C 9 292b d  
 17 PLOTINUS *First Ennead* TR I 1a 6b passim /  
*Sec nd Ennead* TR II CH 13 46c 47b TR C  
 CH 7 69 70a / *F i th Ennead* TR 139a b  
 TR I CH 8 146b d CH 19 151d CH 23 153d  
 TR IV CH 29 173b 174b TR CH 7 188b c  
 TR VII 191c 200c / *F i th E n d t i n*  
 208 209b TR II H 2 215 -c / *S t th Enn ad*  
 TR I CH 16 305a  
 18 AUGUSTINE *C i y f G d* K VII CH 23  
 256b-c K XIII CH 2 360b 361a K XIX CH  
 3 510 B BK XXI 13 561 d BK XXI CH  
 4 588b d  
 19 AQUINA *Summa Theologiae* PART I Q 3 A 1  
 NS 14b 15b Q 18 A 3 ANS AND R 106b  
 107c Q 51 A R 3 275b 276b Q 70 A 3  
 ANS ND REP 2 365b 367a Q 7 A 1 R  
 368b 369d Q 75 76 378 399b Q 97 A 3  
 NS 515a d  
 20 AQUINA *Summa Theologiae* PART I Q 56  
 A 1 R B 1 30a PART I H Q 23 A 2 REP 2  
 483d-484d PART Q 2 A 5 ANS ND REP 3  
 715a 716b Q 5 A 3 737d 739a  
 21 DIONYSIUS *Divine Comedy* URGATORY XV II  
 [40-54] 80b XXV [1 8] 91b 92 RA  
 DI [127 48] 109a b V [49-54] 111b  
 23 HUBER *Leviathan* INTRO 47a b ART IV  
 51  
 28 HARVEY *On Animal Generation* 384d 390b  
 passim 488d-496d passim  
 54 JAMES *Psychology* 139b 140a

1c Soul as the principle of distinct action between  
 thinking and non thinking beings the  
 identity of distinct action between soul and  
 mind or intellect

- 8 ARISTOTLE *Soul* BK I CH 3 [406<sup>b</sup>26 407<sup>b</sup>13]  
 636b 637b  
 12 LUCRETIIUS *Nature of Things* BK III [94 416]  
 31b 35c  
 31 DESCARTES *Discourse* PART IV 51d 52a  
 PART 56a b 59 60c / *Meditations* 71b d  
 II 77d 81d / *Objections and Replies* 119d  
 120a DEF VI 130c 135b 136b 152b d 156a  
 passim 207a 208c d 219b 220a 224d 226d  
 249d 250b  
 35 LOCKE *Human Understanding* BK II CH  
 XXIII SECT 5 20c b SECT 15 208c d CT  
 18 22 209a d SECT 28 32 11b 212d H  
 XXV I SECT 12-14 223a 224b passim  
 35 BERKELEY *Human Knowledge* SECT 6-28  
 418a B SECT 80 430b B SECT 98 432a SECT  
 135-142 440 441c passim SECT 148 442b d  
 46 HEGEL *Philosophy of Right* PART I P 1 47  
 24a b  
 53 JAMES *Psychology* 85a b 130b 131a 139b  
 140a  
 1d Soul as the principle of personal identity  
 the doctrine of the self the empirical and  
 the transcendental ego  
 35 LOCKE *Human Understanding* BK I CH III  
 SECT 4-5 113b-c BK I CH XXVI SECT 7  
 220d 221a SECT 9 9 222a 228c esp SECT  
 I 14 223a 224b  
 35 BERKELEY *Human Knowledge* CT 39 440d  
 42 KANT *Pure Reason* 49c 51d esp 51c d 120  
 129c esp 121a 124d 126a 128b 200c 204c esp  
 203d 204c  
 46 HEIDEGGER *Philosophy of Right* P RT I par 47  
 24 b ADDITIONS 28 121b  
 53 JAMES *Psychology* 188a 197a esp 191a 192b  
 194b 196a 213a 240a esp 213a 216b 220  
 221a 225b 232b-238b

2 The analysis of the powers of the soul

2a The distinct action between the soul and its  
 powers or acts

- 8 ARISTOTLE *S i k* CH I [40<sup>b</sup>9 ] 631d  
 CH 5 [41<sup>a</sup>5 31] 641 d BK II I [412 1 28]  
 642b H II [413 0-414 4] 643 644 BK III  
 CH 9 [43 5<sup>b</sup>9] 664d 665a CH 10 [433 33  
 64] 666 b  
 9 ARISTOTLE *Physics* f *Animals* BK II II 7  
 [62<sup>b</sup>7 16] 177d 178a  
 10 GREGORY *Natural Philosophy* BK CH 2 168b  
 17 PLOTINUS *Third Ennead* TR VI C 2 107a  
 108a / *Fourth Ennead* TR IV CH 3 25 169  
 171b  
 19 AQUINA *Summa Theologiae* PART I Q 77  
 A 399 401b AA 5-6 403d-405c III 79 A I  
 414a d

2 *The analysis of the powers of the soul 2a The distinction between the soul and its powers or acts)*

20 AQUINAS *Summa Theologica* PART I II Q 50 A 2 7c 8a Q 83 A 2 REP 3 172b 173a Q 110 A 4 350d 351d PART III Q 6 A 2 ANS and REP 1 3 741c 742a PART III SUPPL Q 70 A 1 REP 4 893d 895d

21 DANTE *Divine Comedy* PURGATORY IV [1-18] 57c xxv [37-84] 91d 92b

30 BACON *Advancement of Learning* g 54b c

31 DESCARTES *Rules* xii 20a b / *Objections and Replies* 135b 136b 208c 209a

35 LOCKE *Human Understanding* g BK II CH I SECT 9-25 123a 127d esp SECT 10 123b d CH xiv SECT 4 176a b CH xxi SECT 6 179d 180a SECT 14 30 181b 183a

35 BERKELEY *Human Knowledge* SECT 98 432a

3 JAMES *Psychology* 130b 131a

2b The order connection and interdependence of the parts of the soul the id ego and super ego in the structure of the psyche

7 PLATO *Phaedrus* 128a 129c / *Republic* BF II IV 316a 356a BK IX 425c 426a / *Timaeus* 466a 467a

8 ARISTOTLE *Soul* BK I CH 5 [411 33 31] 641b d BK III CH 6-13 662d 668d

9 ARISTOTLE *Motion of Animals* CH 10 [703 28 1] 239a / *Ethics* BK I CH 13 347b-348d BK IV CH II [1138<sup>b</sup> 5 15] 387a c BK VI CH I [1138<sup>b</sup> 35] CH 2 [1139<sup>b</sup> 31] 387b 388b BK IX CH 4 [1166<sup>b</sup> 13 24] 419d 420 / *Politics* K I CH 5 [1254 34 1255 a] 448a c CH 13 [1260 4-8] 454c BK III CH 4 [1277 5 12] 474a BK VII CH 14 [1333 17 25] 538a

11 NICOMACHEUS *Aristotle's Ethics* BK I 826d 827a

17 PLOTINUS *First Ennead* TR I 1a 6b pa m / *Fourth Ennead* TR III CH 3 143b-c CH 19 151d 152b TR IV CH 17 166c d / *Sixth Ennead* TR IV CH 15 304c d

18 AUGUSTINE *City of God* BK XIX CH 13 519a

19 AQUINAS *Summa Theologica* PART I Q 77 A 4 7403a-406b PART II Q 9 AA 1 2657d 659c Q 37 A 1 783d 784c

20 AQUINAS *Summa Theologica* PART III Q 15 A 9 REP 3 794c 795b

21 DANTE *Divine Comedy* PURGATORY IV [1-18] 57c xxv [37-84] 91d 92b

23 HOBBS *Leviathan* PART II 151 d

28 HAVES *On Animal Generation* 444c-445c 447a b

32 MILTON *Paradise Lost* BK XII [9-97] 321a / *Areopagitica* 407b

3 IRELAND *Faith and Ideals* 701d 703a 703c 708c 712a 717a c esp 712b-c 714b-c 715c 716a / *Intellectual Symptoms of Anxiety* 721d 722c esp 722b-c / *Neurological Lectures* 830a 840 esp 836d 839d

2c The kinds of soul and the modes of life vegetative sensitive and rational souls and their special powers

7 PLATO *Republic* BK IV 350c 353c BK IV 421a 427b / *Timaeus* 469d 470a

8 ARISTOTLE *Topics* BK V II 4 [133<sup>a</sup> 28 33] 184c BK VI CH 10 [148<sup>a</sup> 23 37] 202b c / *Heaven* BK II CH 12 [292<sup>b</sup> 1 11] 384a / *Soul* BK I CH 1 [402<sup>b</sup> 1 403 2] 631c 632a CH 3 [407 3-6] 636b = CH 5 [410<sup>b</sup> 16-411 2] 640d 641a BK II CH 2 3 643a 645b

9 ARISTOTLE *Parts of Animals* BK I CH 1 [641 33 10] 164b c / *Generation of Animals* BK II CH 3 [736 25 737 19] 276d 278a CH 4 [740<sup>b</sup> 25] CH 5 [741 30] 281d 282b BK III CH 7 [757<sup>b</sup> 14 30] 298c d

10 GALEN *Natural Faculties* BK I CH 1 167a =

12 LUCRETIVUS *Nature of Things* BK III [231 322] 33a 34b

12 AURELIUS *Meditations* BK III SECT 16 262d 263a c BK IX SECT 9 292b d

16 KEPLER *Ephemerides* BF IV 854b

17 PLOTINUS *First Ennead* TR I 1a 6b passim / *Second Ennead* TR II CH 3 41c 42a TR IX CH 2 67a / *Third Ennead* TR IV CH 2 97d / *Fourth Ennead* TR III CH 19 151d 152b CH 23 153d 154b TR IV CH 13 164d 165b CH 25 172a 173b TR VII CH 14 200b-c TR IX CH 3 206a b / *Fifth Ennead* TR II CH 2 215a c TR III CH 9 220d 221b

18 AUGUSTINE *City of God* BK VII CH 23 256b c CH 29 261a b BK XIX CH 13 519a / *Christian Doctrine* BK I CH 8 626c d

19 AQUINAS *Summa Theologica* PART I Q 18 AA 1 2 104c 106b A 3 ANS 106b 107c Q 69 A 2 REP 1 361c 362c Q 70 A 3 365b 367a Q 77 83 399b 440b Q 118 AA 1 2 600a 603b PART II Q 17 AA 8-9 692a 693d

20 AQUINAS *Summa Theologica* PART I II Q 110 A 4 REP 3 350d 351d

21 DANTE *Divine Comedy* PURGATORY IV [1-18] 57c xxv [37-84] 91d 92b PARADISE VII [121 118] 116b =

28 HAVES *On Animal Generation* 369d 370b 386b 388a 397c 398c 441a-443b 445c 447a b

31 DESARTES *Discourse* PART I 60b-c / *Objections and Replies* 156 d 207a

32 MILTON *Paradise Lost* BK V [469-490] 185b 186

35 LOCKE *Human Understanding* BK II CH IX SECT II 15 140b 141a CH XXVII SECT 4-5 220a-c

36 STEPHENS *Tom Shandy* 271a

42 KANT *Judgement* 465c-467a

2c(1) The vegetative powers the powers proper to the plant soul

7 PLATO *Timaeus* 469d-470

8 ARISTOTLE *Generation and Corruption* BK I CH 5 417b 420b / *Soul* BK I CH 5 [411<sup>a</sup> 27 31] 641d BK II CH 2 [413<sup>a</sup> 20-31] 643b-c [413<sup>a</sup> 5]

- 9] 643c ch 4 645b 647b BK III CH I [434<sup>b</sup>22  
26] 667a b
- 9 ARISTOTLE *Generat on of Animals* BK II CH  
4 [740<sup>b</sup>9-741<sup>a</sup>5] 281c 282a
- 10 G LEN *Nat al Facult es* 167a 215d esp BK  
I CH I 167a b CH 5-8 169b 171a
- 17 PLOTINUS *Third Ennead* TR IV CH 22 97d 98a  
/ *Fourth Ennead* TR IV CH 22 168d 169c CH  
6-7 171b-172a
- 18 AUGUSTINE *City of God* BK VII CH 23  
256b-c CH 29 261a b
- 19 AQUINA *Summa Theol gica* PART I Q 18  
A 3 RE 3 106b 107 Q 78 A I ANS 407b  
409a A 2 409a-410a Q 118 A I 600a 601c  
I 9 A I ANS 604c 607b A- ANS 607b 608d  
P T II Q 7 A 8 692a c
- 20 AQUINA *Summa Theol gica* PART II Q 50  
A 3 R 1 8b-9 PART III SUPPL Q 80 A 4  
ANS 959 963a
- 28 HARV Y *On A mal Generation* 384d 390b  
passim 404b 418b-419d 427-428b
- 31 D S ARTES *Med ations* II 78d 79a / *Ob  
jects and Repl s* 207a 244b-c

2c(2) The sensitive powers the powers proper  
to the animal soul

- 7 PLATO *Timaeus* 466a 467d
- 8 ARISTOTLE *Soul* BK I CH 5 [411<sup>b</sup>27 31] 641d  
BK I CH 2 [413<sup>b</sup>4 10] 643c [413<sup>b</sup>7-4] 643d  
[414 1 3] 644a CH 3 [414<sup>a</sup>29-30] 644c d BK  
I 45 BK III CH 3 647b 661b BK III CH 8  
13 664b 668d / *Sense and the Sensible* CH 7  
[448<sup>b</sup>17 449<sup>a</sup>21] 687d 688d
- 9 ARISTOTLE *Parts of Animals* BK I CH 1  
[641 33<sup>b</sup>] 164b-c BK III CH 5 [667<sup>a</sup>2 3]  
196 / *Met on of Animals* CH 10 238 239a /  
*Generat on of Animals* BK I CH 3 [736 24  
737 19] 276d 278a CH 5 [741 6-30] 282a b /  
*Eth* K VI CH 2 [1139 7 1] 387d
- 10 G L N *Nat al Facult es* BK I CH I 167a b  
12 AULUS *Mediat s* BK IX SECT 9 292b d
- 17 PLOTINUS *First Ennead* TR I CH I 5b-c /  
*Fourth Ennead* TR I CH 19 151d 152b H  
3 153d 154b TR IV CH 20 21 167d 168c CH  
3 25 169c 171b
- 18 AUGUSTINE *City of God* K VII CH 3  
256b c CH 9 261 H
- 19 AQUINA *Summa Theol gica* PART I Q 72  
A I RE 1 368b 369d Q 75 A 3 380 381b  
Q 78 A I 407b-409 A 3 4 410 413d QQ  
80-8 427a-431d Q I 5 A 600a 601c PART  
I Q 17 A 2 REP 687d 688b
- 21 D NT *Durine Comedy* PURGATORY XXV [34  
79] 91d 92a
- 28 HARV Y *On A mal Generation* 369d 370a
- 31 D ART *Rules* XII 19a 20a / *De cor se  
P RT V* 56 b 59 60c / *Meditatio* I 78d  
79a / *Object ns and R pl* 156a d 226a d
- 35 LOCKE *Hum n Underst dng* BK CH IX  
138b 143d passim esp CH IX SECT II 15  
140b 141 CH X SECT O 143 d CH XXVII  
SECT 5 220b c

2c(3) The rational powers the powers proper  
to the human soul

- 7 PLATO *Republic* BK IV 350b 353d BK VI  
386d 388a BK VII 389d 390b BK IX 421a-c  
/ *Timaeus* 453b-454 / *Theaetetus* 535b 536a
- 8 ARISTOTLE *Metaphysics* BK IX CH 2 571c  
572a CH 5 573a c / *Soul* BK II CH 3 [414<sup>b</sup>17  
2] 644d [415<sup>a</sup>7 12] 645b BK III CH 3 8  
659-664d
- 9 ARISTOTLE *Hist ry of Animals* BK VIII CH I  
[588 18<sup>b</sup>] 114b d / *Ethics* BK I CH 7  
[1097<sup>a</sup>23 1098 9] 343a-c CH 13 347b 348d  
K VI CH I [1138<sup>b</sup>35] CH 2 [1139<sup>b</sup>5] 387b 388a  
/ *Rhetoric* BK I CH I [1355<sup>b</sup>1-3] 594d
- 10 G LEN *Natural Facult es* BK I CH 12 173a c
- 12 EPICTETUS *Discourses* BK II CH -3 170a  
171d BK IV CH 7 233a H
- 12 AURELIUS *Meditations* BK II SECT 15 6  
262d 263a c BK V SECT 16 271c d BK IX  
SECT 8-9 292b d BK X SECT I 302a b
- 17 PLOTINUS *Fourth Ennead* TR VIII CH 3 202c  
/ *Fifth Ennead* TR I CH 10 213d 214a
- 18 AUGUSTINE *City of God* BK VI CH 23  
256b CH 29 261a b BK XII CH 23 357d  
358a
- 19 AQUINAS *Summa Theologica* PART I Q 3 A  
I REP 2 14b 15b Q 7 A 2 REP 2 31d 32 Q  
76 A 5 REP 4 394c 396a Q 79 A I ANS 407b  
409a QQ 79-80 413d-428d QQ 82 83 431d  
440b Q 118 A 2 601c 603b
- 20 AQUINAS *Summa Theologica* PART II Q 50  
AA 4-5 9a 10d
- 21 DANTE *Divine Comedy* PURGATORY XVIII  
[ 75] 79d 80 XXV [61 84] 92a b
- 28 HARV Y *On A mal Generation* 427d-428a
- 30 B ON *Ad ad emens f Learn g* 55b d
- 31 DESCARTES *Discourse* PART V 56a H 59c  
60c / *Meditatio* 71b d III 82d H V 89  
93a VI 96b 103d passim / *Object s and  
Repl s* 156 d 207a
- 31 SPINOZA *Ethica* PART II AXIO 2 373d
- 32 MONTAIGNE *Essays* BK V [95 116] 177b
- 35 LOCKE *Human Understanding* K II C I VI  
131b / CH VI 143d 147b esp SECT 9-11 145b  
146 I XXI SECT 4 21 178d 183b passim  
esp SECT 5-6 179c 180a SECT 15 2 181c  
183a H I XXI SECT 5 205a b SECT 15  
208c-d SECT 18 209a SECT 2 209d SECT 28  
30 211b 212b K IV C I X SECT 3 4 364d  
365 H XV SECT I 3 371c 372b
- 36 S AN *Tristram Shandy* 270a 271b
- 42 KANT *Pure Reason* 41c-42b 164b c / *Judge  
ment* 465c 467a H 466a = 474b-475d 522b  
568c 575b esp 568c d 570c 571c 572b 575b
- 46 H GEL *Philosophy of History* INTRO 168d d  
PART 257d 258a PA T III 301d 305b
- 49 D RWIN *Discourse of Man* 278 b
- 53 JAM S *Psychology* H H
- 54 FREUD *Interpretation of Dreams* 381 385c  
esp 385b / *Uncle* 429c d / *General  
Introduction* 532



## 3 The immateriality of the soul

## 3a The soul as an immaterial principle form or substance

- 7 PLATO *Phaedrus* 124b 126c / *Phaedo* 223d 225c 231c 234b / *Republic* bk x 435a 436c / *Timaeus* 449b 450c 452d-454a / *Sophist* 567c d / *Lysis* bk x 761a 765d
- 8 ARISTOTLE *Metaphysics* bk vii ch 10 [1035<sup>b</sup> 14 23] 559a b bk viii ch 3 [1043<sup>a</sup> 29-31] 567d bk xiii ch 2 [107, 20 23] 608c / *Soul* = i ch i [103 3 19] 632a d bk ii ch i 2 642a 644c
- 12 AURELIUS *Meditations* bk iv sect 21 265b c bk xii sect 30 310a b
- 17 PLOTINUS *First Ennead* tr i 1a 6b / *Third Ennead* tr i ch 8-9 81d 82b tr vi ch 2 107a 108a / *Fourth Ennead* tr i ii 139a 141c tr iii ch 2 142a 143b ch 8 146b d ch 20-23 152b 154b tr vii 191c 200c tr ix ch 4 206c d / *Fifth Ennead* tr ii ch 2 215a c / *Sixth Ennead* tr iv ch i 297b d ch 4-5 299a 300a ch 12 16 303a 305c
- 19 AQUINAS *Summa Theologiae* PART I Q 51 A 1 REP 3 275b 276b Q 75 A 1 378b 379c AA 4-5 381b 383b Q 76 A 1 385d 388c A 4 REP 1 393a 394c
- 23 HOBBS *Leviathan* PART IV 269d 271b
- 31 DESCARTES *Discourse* PART IV 51d 52a PART V 59c 60c / *Meditations* 71b d 72d 73c ii 78a 80a vi 96b 103d passim esp 98c d 101d 102a / *Objections and Replies* 114d 115 c 119d 120a 127c d DEF VI 1 130c d DEF X 130d PROP IV 133c 135d 136b 153c 155d 170b-c 207d 208a 209c 224d 225d 231a 232d 261a b 276b c
- 31 SPINOZA *Ethics* PART V PREF 451-452c
- 35 LOCKE *Human Understanding* bk ii ch xiii sect 5 205a ii sect 15 208c d sect 22 209d sect 28 32 211b 212d passim ch xxvii sect 12 17 223a 225a pa im sect 27 227d 228a sect 29 228b-c bk iv ch iii sect 6 313c 315b
- 35 BAKEL Y *Human Knowledge* sect 26 418a sect 89 430b-c sect 141 441a b sect 148 442b-d
- 36 STERNE *Tristram Shandy* 271a b
- 40 C1 OY *Decline and Fall* 186b
- 42 KANT *Pure Reason* 120c 129c esp 124d 128a 203d 204c
- 48 MELILLE *Moby-Dick* 27b 28
- 53 JAMES *Psychology* 220b 223b esp 221a 222b

## 3b The immateriality of the human soul in comparison with the materiality of the plant and animal soul the intellect as an incorporeal power

- 8 ARISTOTLE *Soul* ch i ch 4 [1 9 18 23] 638c ch 5 [111<sup>b</sup> 18] 641c d bk ii ch 12 [113<sup>a</sup> 24 29] 643d 644a bk ii ch 4 [129<sup>a</sup> 10 23] 661b-662a ch 5 662c d
- 9 ARISTOTLE *Generation of Animals* bk ii ch 3 [73<sup>b</sup> 15-73<sup>a</sup> 12] 277b d

- 17 PLOTINUS *Third Ennead* tr vi ch 2 107b c / *Fourth Ennead* tr vii ch 8 195b 196a
- 18 AUGUSTINE *Confessions* bk vii par 2 43c d
- 19 AQUINAS *Summa Theologiae* PART I Q 3 A 1 REP 2 14b 15b Q 7 A 2 REP 2 31d 32c Q 75 AA 2 3 379c 381b AA 5 6 382a 384c Q 79 A 1 REP 4 414a d A 2 REP 1 414d 416a A 3 REP 3 416a-417a A 4 REP 4-5 417a 418 A 5 REP 1 2 418c 419b A 6 REP 1 2 419b 420d Q 83 A 1 REP 5 436d-438a Q 84 A 1 ANS 440d 442a A 2 ANS 442b 443c A 4 ANS 444d 446b A 6 ANS 447c-449c Q 85 A 6 ANS 458d-459c Q 87 A 3 REP 3 46 b-468a Q 89 A 1 ANS 473b-475a PART II Q 2 A 6 ANS 619d 620d Q 35 A 5 ANS 775d 777a
- 20 AQUINAS *Summa Theologiae* PART II Q 5 A 4 9a 10b Q 53 A 1 ANS and REP 2 319d 21a
- 21 DANTE *Divine Comedy* PURGATORY xiv [61 84] 92a b
- 28 HARVEY *On Animal Generation* 494a b
- 31 DESCARTES *Rules* xii 20a b / *Discourse* PART V 60b c / *Objections and Replies* 226 b

## 3c The relation of soul and body the relation of formal and material principles or of spiritual and corporeal substances

- 7 PLATO *Charmides* 2d 3c / *Cratylus* 93b d / *Phaedo* 220a 251d / *Republic* bk iii 334b c / *Timaeus* 453b 454a 466a 467d 474d 475d / *Lysis* bk x 761b 765d
- 8 ARISTOTLE *Topica* bk vi ch 14 [151<sup>a</sup> 10-31] 206a / *Metaphysics* bk vii ch 10 [1035<sup>b</sup> 14 25] 559a b bk viii ch 3 [1043 29-31] 567d ch 4 569d 570d bk xii ch 10 [1075<sup>b</sup> 34 37] 606d / *Soul* bk i ch i [103 3 24] 632a b ch 3 [107<sup>b</sup> 13 25] 637b ch 5 [1010<sup>b</sup> 10-16] 640c [111 23 31] 641b d bk ii ch i 2 642a 644c c 1 4 [115<sup>b</sup> 28] 645d 646a / *Sensibility and the Sensible* ch i [136<sup>b</sup> 3-8] 673b c / *Logic* 7 ch 2 [146 18 32] 710c d / *Youth, Life and Breathing* ch i 4 714a 716b passim ch 14 720d 721a
- 9 ARISTOTLE *Parts of Animals* bk i ch 1 [630<sup>a</sup> 30-641 33] 163c 164b ch 5 [645<sup>b</sup> 14 19] 169c bk ii ch 7 [652<sup>b</sup> 17] 177d 178a bk iii ch 5 [667<sup>a</sup> 15 32] 195d 196a / *Motion of Animals* ch 9-10 238a 239a / *Generation of Animals* bk ii ch 4 [738<sup>b</sup> 18 27] 2 9c / *Politics* bk i ch 5 [1254 34 1255 2] 448a c
- 12 LUCRETIUS *Nature of Things* bk ii [91-9] 31b-40c
- 12 AURELIUS *Meditations* bk iii sect 3 260b bk iv sect 21 265b-c bk xii sect 30 310a b
- 14 VIRGIL *Aeneid* bk vi [724 751] 30b 231a
- 14 PLUTARCH *Romulus* 29a b
- 16 KEPLER *Epitome* bk iv 873a
- 17 PLOTINUS *First Ennead* tr i 1a 6b / *Second Ennead* tr i ch 5 37c tr ii ch 3 41c-42a / *Third Ennead* tr vi ch 2 107b c tr vii ch 4-5 108c 109d / *Fourth Ennead* tr i ii 139a 141c tr iii ch 4 143d 144b ch 8 23 146b 154b tr iv ch 13 166d 167b ch 20-21 167d 168c ch 23 25 169c 171b ch 29 173b 174b tr v ch 1

- 188b-c TR VII 191c 200c esp CH 8 197c 198b  
TR IX 205a 207a / *Fifth Ennead* TR I CH 2  
208c 209b / *S xth En cad* TR IV CH I 297b-d  
4-5 299a 300a CH 12-16 303a 305c TR  
VII CH 4 5 323c 324b
- 18 AL USTINE *City of God* BK X CH 9 317b c  
BK XIII CH 2 360b 361a BK XIV CH 5 379c  
380b BK XIX CH 3 510a b CH I3 519a BK  
X I CH 3 561a 562a BK XVII CH 4 588b d
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- 22 HOBBS *Leviathan* PART IV 250c 251b
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- 38 JAMES *Psychology* 1a-4a esp 2b 3a 118b-  
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- 39 FREUD *Interpretation of Dreams* 154c 155a
- 3d The denial of soul as an immaterial principle form or substance the atomic theory of the soul
- 7 PLATO *Phaedo* 235b 236c 238b 240a /  
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- 8 ARISTOTLE *Generation and Corruption* BK II  
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- 10 GALEN *Natural Faculties* BK I CH 12 172d  
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- 17 PLOTINUS *Third Ennead* TR I CH 3 79b c /  
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- 18 AUGUSTINE *City of God* BK VIII CH 5 268b d
- 19 AQUINAS *Summa Theologica* PART I Q 75  
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- 25 MONTAIGNE *Essays* 264b 267a
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- 35 LOCKE *Human Understanding* BK IV CH III  
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- 35 BERKELEY *Human Knowledge* CT 93 431b  
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- 42 KANT *Pure Reason* 126 d / *Judgment*  
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- 46 HEGEL *Philosophy of History* PART I 255d
- 51 TO STOR *War and Peace* EPILOGUE II 689c  
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- 53 JALLES *Psychology* 95a 119b
- 3e The corporeal or phenomenal manifestation of disembodied souls as ghosts or spirits
- OLD TESTAMENT *I Samuel* 28 8 9-(D) I  
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- 4 HOMER *Iliad* BK XXII [54 107] 161d 162b /  
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- 5 A CHYLUS *Persians* [623-842] 21d 24b /  
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- 5 A TOPHAN *Songs* [1552 1564] 561b
- 6 HE ODOTUS *History* K IV 126d 127a K V  
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- 7 PLATO *Phaedo* 232d 233b
- 12 LUcretius *Nature of Things* BK I [02 35]  
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- 13 VIET *Aeneid* K [77-794] 146a b K  
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- 14 PLUTARCH *Cimon* 392b-c / *Cicero* 603d  
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- 17 PLOTINUS *Fourth Ennead* TR VII CH 15 200c
- 19 AQUINAS *Summa Theologica* PART I Q 89 A 8 REP 2 479c-480c
- 20 AQUINAS *Summa Theologica* PART III SUPPL., Q 69 A 3 887d 889c
- 21 DANTE *Divine Comedy* PURGATORY III [16-33] 56a xxv [19-108] 92b-c PARADISE III [1-30] 109b-c
- 23 HOBBS *Leviathan* PART I 51b 52b 80a PART IV 250c 251c passim 258c d 270c 271b passim 274b-c
- 46 SHAKESPEARE *Richard III* ACT V SC III [118-176] 144d 145c / *Julius Caesar* ACT IV SC III [275 308] 591 d
- 27 SHAKESPEARE *Hamlet* ACT I SC I [40 175] 30a 31c SC IV [38]-SC V [91] 36b 37d ACT III SC IV [102 136] 55d 56a / *Macbeth* ACT III SC IV [137 107] 298a d / *Cymbel e* ACT V SC IV [30-22] 481c-482b
- 44 BOSWELL *Johnson* 93b 124b 125a esp 115a II [fn 1] 189a b 193b-c 373a 394c d 412a b 472b-c
- FREUD *War and Death* 763d 764a
- 4 The being of the soul
- 4a The unity of the human soul the human mode of the veget ti e and sens ti e powers
- 8 ARISTOTLE *Soul* BK I C 15 [410<sup>b</sup>10-16] 640c [411<sup>a</sup>23 631] 641b d BK II CH 2 [413<sup>b</sup>10-414 4] 643c 644a BK III CH 9 [432 15-38] 664d 665a CH 10 [433 32 4] 666a II
- 9 ARISTOTLE *Eth cs* BK I CH 13 [1102<sup>a</sup>27 32] 347d
- 17 PLOTINUS *Fourth Ennead* TR III CH 3 143b c CH 19 151d 152b TR VII CH 14 200b c TR IX CH 2 3 205c 206b
- 19 AQUINAS *Summa Theologica* PART I Q 76 A 1 3385d 393a q 8 A 4 REP 5 411d-413d Q 81 A 3 REP 2 430c-431d
- 20 AQUINAS *Summa Theologica* PART III Q 2 A 2 REP 2 711d 712d PART III SU PL., Q 79 A 2 REP 3 953b 955c
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- 4b The issue concerns g the self subs tence or immortality of the hum n soul ts existence or capacity for ex tence in separat ion f om the human body
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- 6 HERODOTUS *Hist ry* BK II 75b
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- Republic* BK I 434d 436a / *Laos* BK XII, 793c d / *Seventh Letter* 806a
- 8 ARISTOTLE *Metaphysics* BK XII CH 3 [107<sup>a</sup>21 28] 599c / *Soul* BK I CH 1 [403<sup>a</sup>2 24] 632a b CH 2 [405<sup>a</sup>29-34] 634d BK II CH 1 [413 3-9] 643a CH 2 [413<sup>b</sup>24 29] 643d 644a BK III CH 4 [429 29-34] 661c d CH 5 662c d
- 9 ARISTOTLE *Generation of Animals* BK II C 3 [736<sup>b</sup>15-737 12] 277b d
- 12 LUCRETIUS *Nature of Things* BK III [323 349] 34b ■ [417-1094] 35c 44a c
- 12 AURELIUS *Meditations* BK II SECT 14 258d SECT 17 259b d BK IV SECT 21 265b-c SECT 13 271b BK VIII SECT 37 288c BK XII, SECT 5 307d 308a SECT 14 308c
- 14 PLUTARCH *Romulus* 29a b
- 17 PLOTINUS *First Ennead* TR I CH 2 1c / *Fourth Ennead* TR II 139a b TR IV CH 15 165c d TR VII 191c 200c
- 18 AUGUSTINE *City of God* BK VI CH 12 243 d BK X CH 31 319b d BK XIII CH 2 360b 361a
- 19 AQUINAS *Summa Theologica* PART I Q 61 A 2 REP 3 315c 316a Q 75 A 2 379c 380c A 6 383c 384c Q 76 A 3 REP 1 2 391a 392a PART II Q 22 A 1 REP 3 720d 731c
- 20 AQUINAS *Summa Theologica* PART II Q 85, A 6 182d 184a
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- 23 HOBBS *Leviathan* PART III 192c 193c PART IV 50c 251c 253b-255b 269d 271b
- 25 MONTAIGNE *Essays* 264a 269b
- 31 DESCARTES *Discourse* PART V 60b-c / *Objections and Replies* 127c d DEF VI VI 1 0-c d DEF X 130d PROPOSITION 133c
- 31 SPINOZA *Ethics* PART V PROP 21 458b d PROP 29 33 459b-460c PROP 36 40 461a-462d
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- 48 MILLER *Moby Dick* 25b 28a esp 27b 25a 380b-381a
- 49 DERRIDA *Deconstruction of Man* 593 d
- 51 TOLSTOY *War and Peace* BK II 295b-c
- 53 JAMES *Principles of Psychology* 224a 225a
- 54 FREUD *War and Death* 763d 764b

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A OCRYPHA *Wisdom of Solomon* 2:23 15 11—  
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12 LUCRETIUS *Nature of Things* BK III [323 349]  
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12 AURELIUS *Meditations* BK IV SECT 21  
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13 VIRGIL *Aeneid* BK VI [724-751] 230b 231a

17 PLOTINUS *Second Ennead* TR IX CH 3 4  
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18 AUGUSTINE *City of God* BK V CH 29 261a b  
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19 AQUINAS *Summa Theologiae* PART I Q 75  
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20 AQUINAS *Summa Theologiae* PART III Q 6  
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21 DANTE *Divine Comedy* PURGATORY XVI  
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21 HOBBS *Leviathan* PART I: 173d 176d  
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31 S INOZA *Ethics* PART I PROP 29-3 366b  
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40 C B BON *Decline and Fall* 11 186b

41 G B BON *Decline and Fall* 640a b [n 8]

42 HANT *Judgement* 565d

4d The life of the soul part from the body

4d(1) The doctrine of transmigration or per-  
petual re-creation

4 H OMER *Odyssey* BK VI [298-304] 246a

6 H RODOTUS *History* K II 75b

7 PLATO *Phaedrus* 125b 126 / *Men* 179d  
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8 AR TOT E S UL BK I CH 3 [406 30-5] 635d  
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11 LUCRETIUS *Nature of Things* BK I [102 119]  
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12 AURELIUS *Meditations* BK IV SECT 21 265b c

13 VIRGIL *Georgics* IV [219-227] 89b / *Aeneid*  
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14 PLUTARCH *Romulus* 29a b

17 PLOTINUS *First Ennead* TR I CH II 5b c /  
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18 AUGUSTINE *City of God* BK X H 30 318b  
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20 AQUINAS *Summa Theologiae* PART II SUPPL  
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21 DANTE *Divine Comedy* PARADISE IV [49-63]  
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25 MONTAIGN *Essays* 206c 207a 249b-250a  
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35 LOCKE *Human Understanding* BK II CH  
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40 G B BON *Decline and Fall* 2d 3a

41 G B BON *Decline and Fall* 135a 226b

46 HEGEL *Philosophy of History* INTRO 187a b  
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48 MELVILLE *Moby-Dick* 316b

51 TOLSTOY *War and Peace* BK V I 295b-c

54 FR UD *War and Death* 764b

4d(2) Comparison of separated souls with  
men and angels

N W TESTAMENT *Luke* 20 34-36

17 PLOTINUS *Fourth Ennead* TR III CH 8  
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18 AUGUSTINE *City of God* BK VIII CH I 260a 11  
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19 AQUINAS *Summa Theologiae* PART I Q 9  
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20 AQUINAS *Summa Theologiae* PART I-II Q 67  
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21 DANTE *Divine Comedy* PURGATORY XXV [1-  
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35 LOCKE *Human Understanding* K V CH  
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36 STERN *Tristram Shandy* 318b

44 BOWEN *John* 192d 193 363 b

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4d The *if* of the soul *apart* from the body)

4d(3) The need of the soul for its body the dogma of the body's resurrection for the soul's perfection

III AUGUSTINE *City of God* BK X CH 29 317b 318b BK XIII CH 16-20 367a 371a BK XIV CH 3 378a II CH 5 379c 380b BK XVI CH 3 561d 56 a BK XVII CH 6-27 612c 613c / *Christian Doctrine* BK I CH 24 630 631a

19 AQUINAS *Summa Theologica* PART I Q 9 A 1 REP 5 162a 163b Q 51 A 1 ANS 275b 216b Q 9 A 1 ANS 473b 475a A 2 REP I 475a d PART I II Q 3 A 3 ANS 624b 6 5a Q 4 AA 5 6 632c 635a

20 AQUINAS *Summa Theologica* PART III SUPPL Q 5 935a 939c Q 80 A 1 ANS and REP I 956c 957c A 3 ANS and REP 2 958b 959c Q 81 A 4 966d 967d Q 93 A 1 ANS 1037d 1039a

21 DANTE *Divine Comedy* HELL VI [94 III] 9b c PARAISE XIV [1-66] 126d 127c

25 MONTAIGNE *Essays* 311a b

4d(4) The contamination of the soul by the body the purification of the soul by release from the body

7 I LATO *Cratylus* 93d 95c / *Phaedo* 223a 226c 230d 34c / *Republic* BK IV 350 355c BK VII 3 8a 390b BK IX 425c-427b BK X 431c 441a II / *Timaeus* 474b 476b / *Seventh Letter* 805d 806a

12 EPICTETUS *Discourses* BK I CH 9 115a c

13 VIRGIL *Aeneid* BK VI [7 4-751] 230b 231a

17 PLOTINUS *First Ennead* TR I CH 4 2b CH 9-1 4 5b CH 12 5c 6a TR II 6b 10a esp CH 4-5 8a 9a TR IV II 4 16 14a 19b TR VI CH 6 24a-c TR VII CH 3 26d 27a TR III CH 4 28c 29a CH -8 30 31c CI 11 33a d / *Second Ennead* TR IX CH 15 74d 75b CH 17 18 76b 77d / *Third Ennead* TR I CH 8 10 81d 82b TR IV CH 2-6 97d 100b P SIM TR I CH 4-5 108. 109d / *Fourth Ennead* TR III CH 32 158c 159a TR V CI 17 166c d TR VI CH 10 198d 199c TR VIII CH 1 200d 201b CH 3-8 202a 205a passim / *Fifth Ennead* TR I CH 1 2 208a 209b CH 10-12 213 214c TR III CH 17 276a-c / *Sixth Ennead* TR I CH 14 16 304a 305c TR VII CH 34 36 338b 339d TR IX CH 8 II 358b 360d

18 AUGUSTINE *City of God* BK XIII CI 16 367a d BK XIV CI 3 378a d II 5 379c 380b BK XIX CH 4 512a 513c

19 AQUINAS *Summa Theologica* PART I Q 89 A 1 A 3 473b-475a

5 D *r* knowledge of the soul and its powers

5a The soul's knowledge of itself by reflection on its acts the soul as a transcendental or noumenal object the paradoxes of rational psychology

7 PLATO *Phaedo* 220a 251d / *Republic* BK IV 300c 353d

8 ARISTOTLE *Soul* BK I CH I 631a 63 d BK II CH 4 [415 14 22] 645b-c BK III CH 4 [429<sup>b</sup>-9] 661d [429<sup>b</sup>25 9] 662b [430<sup>a</sup>-5] 662b b

9 ARISTOTLE *Ethics* BK IX CH 9 [11,0<sup>a</sup> 53] 424a

12 EPICTETUS *Discourses* BK I CH I 105a b

12 AURELIUS *Meditations* BK XI SECT I 302a b

18 AUGUSTINE *City of God* BK VI CH 6 2 336d 338a

19 AQUINAS *Summa Theologica* PART I Q 87 464d 468d

21 DANTE *Divine Comedy* PURGATORY XII [49-60] 80b c

25 MONTAIGNE *Essays* 261c 269b passim

30 BACON *Advancement of Learning* 54b c

31 DESCARTES *Discourse* PART IV 51b 5 b passim esp 51c 52a / *Meditations* III 71a c II 77d 81d VI 96b 103d / *Object and Reflection* 207b 224b d

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54 FREUD *Interpretation of Dreams* 353b-c / *General Introduction* 429c-430c / *General Introduction* 451b 620a

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54 I KANT *Origin and Development of the Critique of Pure Reason* 12d 13d esp 13c d / *Introduction* 428a 429c Dc ms 154d 155a / *Unfinished* 428a 429c 431b d 434c / *General Introduction* 549d 550b / *New Introductory Lectures* 830 831c par m esp 831c

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- Another consideration of the soul as the principle of life see *ANIMAL* 1a *LIFE AND DEATH* 1-2 and for other considerations of the soul as identical with mind or intellect and as the principle of thought see *MIND* 1b-1d 1f
- The problem of personal identity see *ONE AND MANY* 3b(5) *SAME AND OTHER* 1b
- Other discussions of the parts or powers of the soul and for discussions relevant to the distinction of several kinds of soul see *ANIMAL* 1-1c(2) *LIFE AND DEATH* 3-3b *MAN* 1-1c 4-5a *SENSE* 1a 2-2c
- The treatment of specific powers of the soul and of their relation to one another see *DESIRE* 3-3d 5-6c *EMOTION* 1-1a 2-2c 4a *MEMORY AND IMAGINATION* 1-1d *MIND* 1a-1a(4) 1c-1f 1g(2) *ONE AND MANY* 3b(5) 4a *OPPOSITION* 4a *SENSE* 1a-1d 3-3 *WILL* 1-3b
- The controversy over the immateriality of the soul and its relation to the body see *ANIMAL* 1c *BEING* 7b(2) 7b(4) *ELEMENT* 5c-5f *FORM* 2c-2c(1) 2d *LIFE AND DEATH* 2 *MAN* 3a 3c *MATTER* 2d 3a 4c-4d *MECHANICS* 4c *MIND* 2a-2c *ONE AND MANY* 3b(4) and for the related controversy over the immortality of the soul see *IMMORTALITY* 2-3b *METAPHYSICS* 2d
- Other discussions of the transmigration of souls see *IMMORTALITY* 5a
- Theories about the state and operations of the soul in separation from the body see *ANGEL* 4 *IMMORTALITY* 5b *MAN* 3b *MIND* 4c and for the doctrine of the resurrection of the body see *GOD* 7g *IMMORTALITY* 5g
- Other discussions relevant to the spiritual dignity of human nature which requires all men to be treated as ends see *JUSTICE* 6 6c *LIBERTY* 1a *SLAVERY* d 3d *WILL* 7a
- The nature and problems of psychology as the science of the soul or of man see *KNOWLEDGE* 5a(6) *MAN* 2a-2b(4) *MIND* 6 a 1d for discussions relevant to the distinction between rational and empirical or philosophical and scientific psychology see *PHYSICS* 2 *SCIENCE* 1c

## ADDITIONAL READINGS

Letted below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups.

I Works by authors represented in this collection

II Works by authors not represented in this collection

For the date placed at the end of each fact concerning the publication of the works cited consult the Bibliography of Additional Readings which follows this last chapter of *The Great Ideas*.

## I

- PLOTINUS* *Enneads* 1-12 *Plotinus on the Soul*, as discussed in *Timaeus* in *Middle Ages*
- AUGUSTINE* *On the Immortality of the Soul*
- *The Soul and Its Origin*
- ALFARABUS* *On the Soul and Its Origin* CH V
- *Summa Contra Gentiles* K I CH 46-90
- K V CH 70-95
- *On the Soul and Its Origin*
- *Quodlibet* D p t a t a De I e r t a t Q 19
- D A m a a 1-2 6-5 7-2
- *The Unity of the Intellect*
- D N T E C m a o (The Hierarchy) TH T EATHE
- CH 5-8

*DESCARTES* *The Principles of Philosophy* PART 7-8 11-5-53 6-65 ART V 96-97

*HUME* *On the Immortality of the Soul* CH I

*HUME* *A Treatise of Human Nature* BK I ART IV 5 CT V-VI

— *Of the Immortality of the Soul*

— *Of Suicide*

*KANT* *Prolegomena to a New Future Metaphysics* par 46-49

## II

*ECCLESIASTES* *Letter to Herodotus*

*TERULLIAN* *A Treatise on the Soul*

*GREORYO* *Nine A. O. the Soul and the Resurrection*

- PROCLUS *The Elements of Theology* (N)  
 SAADIA GAON *The Book of Beliefs and Opinions*  
 TREATISE VI-VII  
 ALBERTUS MAGNUS *De Nat'ra et Origine An'iae*  
 — *On the Intellect and the Intelligible* TREATISE  
 I II  
 MELANCHTHON *Commentarius de Anima*  
 JOHN OF THE CROSS *Spiritual Canticle*  
 — *Dark Night of the Soul*  
 — *The Living Flame of Love*  
 SUAREZ *Disputationes Metaphysicae* XIII (14)  
 XXIV (5)  
 BLAKTON *The Anatomy of Melancholy* PART I  
 SECT I MEMB II SUB SECT 5-11  
 JOHN OF ST. THOMAS *Cursus Philosophicus The-*  
*misticus Philosophia Naturalis* PART IV QQ 1-12  
 MARILL *Dialogue Between the Soul and the Body*  
 MALBRANCHE *De la recherche de la vérité* BK I  
 C I 10 (13)  
 — *Dialogues on Metaphysics and Religion* 1  
 LEIBNIZ *Discourse on Metaphysics* XXIII-XXIV  
 — *Philosophical Works* CH 12 (*A New System of*  
*the Interaction of Substances*) 13 (*The Reply of*  
*M. Foucher Concerning the Interaction of Sub-*  
*stances*) 23 (*Considerations on the Doctrines of a*  
*Universal Spirit*) 34 (*The Principles of Nature and*  
*of Grace*)  
 — *New Essays Concerning Human Understanding*  
 BK IV CH 9  
 — *Monadology* par 19-28  
 LAETITIUS *Histoire naturelle de l'âme*  
 LAMETTRIE *Man a Machine*  
 VOLTAIRE *Soul* in *A Philosophical Dictionary*  
 HELVETIUS *Traité de l'esprit*  
 — *A Treatise on Man*  
 SCHELLING *Von der Weltseele*  
 EMERSON *The Over Soul* in *Essays* 1  
 GRATRY *Philosophie De la connaissance de l'âme*  
 BAIN *Mind and Body*  
 CLIFFORD *Body and Mind* in VOL II *Lectures*  
*and Essays*  
 LOTZE *Microcosmos* BK II-III  
 — *Metaphysics* BK III CH 1  
 — *Outlines of Psychology*  
 FRAZER *The Golden Bough* PART II PART III CH 7  
 PART V CH 16 PART VII CH 10-11  
 BRADLEY *Appearance and Reality* BK I CH 9-10  
 BK II CH 23  
 — *Collected Essays* VOL I (20)  
 VONIER *The Human Soul and Its Relations with*  
*Other Spirits*  
 DRIESCH *Mind and Body*  
 BERGON *Matter and Memory* CH 4  
 — *Mind Energy* C 12  
 WHITEHEAD *Religion in the Making* CH 3  
 — *Adventures of Ideas* CH 2  
 B. RUSSELL *Religion and Science* CH 5  
 JUNG *Modern Man in Search of a Soul*  
 — *Psychology and Religion*  
 SANTAYANA *Scepticism and An'nal Faith* CH 24 6  
 — *The Realm of Matter* CH 8-9  
 — *The Realm of Spirit* CH 1-3

## Chapter 89 SPACE

### INTRODUCTION

ON the level of our everyday observations space and time seem to be the obvious the common and the connected properties of physical things. We distinguish things from one another by their position in space as we mark happenings by the date of their occurrence. The where and when of a thing is often used to identify it for it is generally agreed that two bodies cannot occupy the same place at the same time and that at the same time two distinct places cannot be occupied by the same body. According to a theologian like Aquinas these limitations of space and time apply even to bodiless things *i.e.* to angels.

An angel and a body are said to be in a place—he writes in quite a different sense. Whereas a body is in the place which contains it, an angel is said to be in a corporeal place by application of the angelic power—not as being contained but as somehow containing it. It follows nevertheless that at a given time an angel is not everywhere nor in several places but in only one place. Nor does the incorporeality of angels permit more than one angel to be at the same time in the same place. According to the manner in which an angel is at a place—by the action of his power—there can be only one angel in one place. Aquinas declares even as there can be only one body in one place at a time.

Location or position in space and spatial relationships such as higher and lower, nearer and farther are so familiar and intelligible that they provide terms of reference whereby men speak metaphorically of the moral hierarchy and spiritual distances. The whole of Dante's *Divine Comedy* for example involves a spatial metaphor which sets forth the gradations of sin and the degrees of blessedness in terms of places beneath the earth and in the heavens above.

As he mounts from sphere to sphere in Para-

dise Dante meets Piccarda Donati in the Heaven of the Moon. She explains to him that this place which appears so far down is assigned to those who have violated their vows in some particular. Dante wonders why she and the others do not desire a more exalted place in order to see more. Piccarda replies: Brother, virtue of charity quiets our will and makes us wish only for that which we have and quickens not our thirst for aught else. So that as we are from seat to seat throughout this realm to all the realm is pleasing as to the King who n[urture]s us with His will and His will is our peace.

This speech of Piccarda's makes it clear to Dante how everywhere in Heaven is Paradise even if the grace of the Supreme Good does not there rain down in one measure. These different measures of beatitude in the diffusion of God's love and light are represented by the celestial spheres from the earth-adjacent moon to the Crystalline Heaven, the outermost bound of the physical universe of which Dante says that it has no other Where than in the Divine Mind.

When the whole expanse of physical space or the boundary of the universe is considered Newton no less than Dante conceives the omnipresence and eternity of God as that which somehow encompasses all space and time. God is not duration or space. Newton writes at the end of the *Principles* but He endures and is present and by existing always and everywhere He constitutes duration and space. In the concluding queries of the *Optics* Newton appears to think of infinite space as the *Divine Sensorium* in which all things are at once present to God who being in all places is more able by His will to move the bodies within His bounds uniformly and thereby to form and reform the parts of the Universe than



we are by our will to move the parts of our own bodies

The physicist does not have to turn theologian however to be confronted with the mysteries of space. Even without the modern complication of the relation of its three dimensions to time as a fourth dimension the physical concept of space raises difficulties for analysts.

In the tradition of western thought conflicting definitions of space seem to result from a fundamental difference in the object being defined—whether it is an inseparable property of bodies perhaps even identical with unformed matter or a reality apart from the bodies which move and have their being in it. Sometimes this difference is signified by a difference between the meaning of the word *place* or *extension* and the meaning of *space*. It appears also to be involved in the contrast between filled space and empty space (*i.e.* the void or vacuum) and it bears some relation to Aristotle's distinction between space and place and to Newton's distinction between absolute and relative space.

The controversial character of space in physical theory may be appreciated in terms of these oppositions in meaning and the issues which they raise. In addition physical theory is confronted with the problem of action at a distance (*i.e.* action through a void or through an ethereal medium) the problem of the infinity of space (or the question of a bounded or unbounded universe) and the distinction between one physical space and the variety of geometrical spaces.

Space which at first seems easily apprehended by sense and susceptible to measurement becomes upon examination so subtle as to be almost a vanishing object. Reason finds it difficult to say precisely *what* space is in itself and how it is related to matter and motion. Even the familiar space of ordinary sense perception seems to have its puzzles. A psychologist like James is concerned with how the different fields of touch, vision, and hearing coalesce to form the single space of our experience and in dealing with this process by which we learn to perceive the spatial manifold of positions and directions he cannot avoid the issue of innate as opposed to acquired space perception.

PLATO'S THEORY OF SPACE is set forth in the *Timaeus* as part of the likely story which *Timaeus* tells about the production and constitution of the universe. The sensible things which come into being and pass away are according to him patterned after the eternal forms. To the eternal patterns and their copies in the world of change *Timaeus* finds it necessary to add a third factor in order to account for the physical elements and their generation. This factor he says is difficult to explain and dimly seen. It is the receptacle and in a manner the nurse of all generation. In contrast to the elements which are perpetually changing into and out of one another the receptacle never departs from her own nature and never in any way assumes a form like that of any of the things which enter into her. The forms which enter into and go out of her are the likenesses of real existences modelled after their patterns in a wonderful and unexplicable manner.

*Timaeus* distinguishes the three principles as that which comes to be and passes away in the process of generation; that in which the generation takes place; and that which the generated thing resembles and which is its source. He likens the receptacle or receiving principle to a mother, the source to a father, and the intermediate nature to a child, and adds that if the model is to take every variety of form then the matter in which the model is fashioned will not be duly prepared unless it is formless and free from the impress of any of those shapes which it is hereafter to receive from without.

Wherefore that which is to receive all forms should have no form. The mother and receptacle of all created visible and in any way sensible things is not to be termed earth or air or fire or water or any of their compounds or any of the elements from which these are derived but is an invisible and formless being which receives all things and in some mysterious way partakes of the intelligible and is most incomprehensible.

This third factor which *Timaeus* sometimes calls matter as well as receptacle he also sometimes calls space. When matter and space are identified with each other under the conception of a receptacle for the forms they have the characteristics of being absolutely

formless and imperceptible to the senses. Nor are they as are the forms genuinely intelligible to reason. "The third nature which is space and is eternal," Timaeus says, "admits not of destruction and provides a home for all created things and is apprehended without the help of sense by a kind of spurious reason and is hardly real which we behold as in a dream, say of all existence that it must of necessity be in some place and occupy a space but that which is neither in heaven nor on earth has no existence."

The precise meaning of this conception of space is difficult to determine. Does it for example find an echo in Plotinus' statement that space is a container, a container of body, it is the home of such things as consist of isolated parts? But he also says that space in a strict sense is unembodied and is not itself body and that body is not a void but rather that the void must be that in which body is placed, seeming thereby to imply that space is essentially the void. The statement in the *Timaeus* that there can be no such thing as a vacuum may apply only to the filled space of the created heaven and earth. May it not also be said that space is a void when it is identified with the formless matter of the receptacle prior to creation?

This raises further questions. Is the receptacle space or matter? And is the conception of space in the *Timaeus* rightly interpreted by Aquinas in commenting on Augustine's reading of the earth was void and empty in Genesis 1:2? Augustine holds that by the word earth in this passage *formless matter is to be understood*. Because of its formlessness Aquinas writes the earth is said to be *void and empty or insubstantial and shapeless* and he adds that is why Plato says matter is place.

HOWEVER THESE QUESTIONS are answered one thing seems to be clear. Space functioning as receptacle can be identified only with matter devoid of form, not with the matter of three-dimensional bodies. The relation of space to matter seems to be differently conceived by Descartes. Space is for him not an antecedent principle involved in the original production of sensible things but rather—as the extension of bodies—it is inseparable in existence from them. It is a property which signifies the presence of

material substances as thinking signifies the essence of mind or soul. By extension Descartes writes we understand whatever has length breadth and depth not inquiring whether it be a real body or merely space. Nevertheless he goes on to say that by extension we do not here mean anything distinct and separate from the extended object itself.

Descartes considers the significance of three statements: *extension occupies place*, *body possesses extension* and *extension is not body*. The first statement he thinks means no more than *that which is extended occupies place*. The second statement seems to imply that the meaning of *extension* is not identical with that of *body* yet Descartes insists we do not construct two distinct ideas in our imagination, one of body the other of extension but merely a single image of extended body and from the point of view of the thing it is exactly as if I had said *body is extended* or better *the extended is extended*. Finally in the statement that *extension is not body* the word extension according to Descartes expresses a purely abstract conception—nothing which in itself has any sensible reality. So far as its existence is concerned the thing conceived as extension cannot be separated from body. Those who think otherwise Descartes asserts are involved in the contradiction of saying that *the same thing is at the same time body and not body*.

The point is summarized in his *Principles of Philosophy* by the statement that the nature of matter or of body in its universal aspect does not consist in being hard or heavy or colored

but solely in the fact that it is a substance extended in length breadth and depth. But it may be asked are the dimensions of a body the same as space? Descartes replies that the same extension which constitutes the nature of a body constitutes the nature of space not only that which is full of body but also of that which is called a vacuum.

If there were a vacuum or empty space extension might be separated from body. This Descartes flatly denies. As regards a vacuum in the philosophical sense of the word *vacuum* is a space in which there is no substance. It is evident that such cannot exist because the extension of pure or internal place is not different from that of body. And even when we take

this word vacuum in its ordinary sense. Descartes goes on: we do not mean a place or space in which there is absolutely nothing but only a place in which there are none of those things which we expected to find there.

These points made in the *Principles* confirm the identification of three-dimensional space or extension with body which appears in the *Rules*. They seem to be further confirmed in the *Discourse* by the reference to a continuous body or a space indefinitely extended in length, height or depth which is the object of the geometers. Descartes does not however neglect the distinction between space as the extension of body and place as the position one body occupies in relation to another. According to common usage he says the word place signifies that in virtue of which a body is said to be here or there. He objects to those who like Aristotle mean by place the surrounding surface of a body. Local motion or change of place is not, he argues, a change in the body's surrounding surface but a change in its relative position.

It is place rather than space which Aristotle seeks to define and place in the sense of the circumference of a body rather than its position in space. He rejects the notion that place is the extension of a magnitude for that would he thinks identify it with matter. Place belongs to body not as matter or a property of matter but as its boundary. It is Aristotle writes the innermost motionless boundary—a kind of surface and as it were a vessel or a container of the thing. This boundary is itself made at the surface of a body by a surrounding body or bodies. If a body has another body outside it and containing it Aristotle writes it is in place and if not not.

The consequences of this conception of place are first a denial of space in the sense of void or empty place since place is always coincident with the thing contained or bounded; second a denial of any infinite place since that would presuppose an actually infinite body—to Aristotle an impossibility; and third the conclusion that the whole universe itself does not have a place for outside the outermost heaven which bounds the world there can be no containing body by which the universe is bounded.

Aristotle explains that by heaven he means the extreme circumference of the whole—a whole composed of all natural perceptible body. The two words which Einstein uses when he discusses the possibility of a finite and yet unbounded universe seem to apply to Aristotle's conception of the world—finite in body or matter yet unbounded so without anything outside itself to determine or define its boundary.

Aristotle's view of the world seems to be directly opposed to that of the ancient atomists. For them the whole of matter is discontinuous, existing in indivisible units or atoms each of which is a plenum—that is, a unit of matter absolutely continuous without void in it—but between which there is void or empty space. For Aristotle the material world as a whole is a plenum so continuous body without void. Hence if by space is meant not place but void—a bodyless interval between or within bodies—there is no space. Aristotle considers the arguments of Democritus that without void local motion would be impossible but he thinks there is no necessity for there being a void if there is movement.

Following Democritus Lucretius gives another reason for positing void or empty space. As the indivisibility of the simple bodies or atoms consists in their absolute solidity—their lack of void—so the divisibility of composite bodies derives from their being constituted by both atoms and void. Wherever space has empty which we call the void Lucretius writes body is not there moreover wherever body has its station there is by no means empty void. Therefore the first bodies are solid and free from void. If there were nothing solid was empty and void the whole would be solid unless there were bodies determined to fill all the places that they held the whole universe would be but empty void space.

For Aristotle in contrast the divisibility of matter seems to depend upon its being continuous. On his view the composite body constituted by atoms separated from one another by void is not divisible but is already actually divided whereas the very thing which Lucretius regards as indivisible because it is continuous—the voidless atom—is for Aristotle divisible. To call an atom divisible is of course

to deny that it is atomic or in the language of Lucretius an uncuttable bit of solid singleness

Thus diametrically opposite theories of space and place seem to be connected with opposite theories of matter or body. Space as the empty interval or void between solid bodies goes along with atomism whereas place as the boundary of the containing body at which it is in contact with the contained body goes along with the theory of the world as a material plenum.

The atomic theory and the plenum theory are opposed in one other fundamental respect concerning space. According to Aristotle the impossibility of an actually infinite body makes the largest place finite. According to Lucretius the infinite number of atoms requires an infinite space. Asking whether the void that we have discovered or room or space is altogether bounded or spreads out limitless and immeasurably deep, Lucretius answers that the whole universe is bounded in no direction. His argument seems to be like Aristotle's for an unbounded universe. Since there can be nothing outside the whole sum, he writes, it lacks therefore bound or limit. But where Aristotle's meaning seems to be that the universe has no place since all places are inside it, Lucretius appears to mean that empty space extends infinitely in all directions.

MODERN ATOMISTS like Newton and Locke hold a theory of space which accords with the view of matter existing in discontinuous units separated by intervals of emptiness. Newton's distinction for example between absolute and relative space acknowledges a space that is relative to bodies but also affirms an absolutely independent space which has being in separation from matter or bodies. Absolute space in its own nature without relation to anything external, he writes, remains always similar and immovable. Relative space is some movable dimension or measure of the absolute spaces which our senses determine by its position to bodies and which is commonly taken for immovable space. As for place in distinction from space, Newton holds that it is a part of space which a body takes up and is according to the space either absolute or relative. In opposing Aristotle's view, he adds that place is

not the situation nor the external surface of the body. For the places of equal solids are always equal but their surfaces by reason of their dissimilar figures are often unequal.

Locke also distinguishes between space and place, the one consisting in the relation of distance between any two bodies or points, the other in the relation of distance between any thing and any two or more points which are considered as keeping the same distance one with another and so considered as at rest. With this conception of place, he holds in apparent agreement with Aristotle that we can have no idea of the place of the universe though we can of all the parts of it. Yet he goes on to say that what lies beyond the universe is one uniform space or expansion wherein the mind finds no variety or marks.

This seems to indicate that Locke's idea of space like that of Lucretius conceives an infinite void. Those who assert the impossibility of space existing without matter must, he writes, make body infinite. Furthermore, those who dispute for or against a vacuum do thereby confess that they have distinct ideas of vacuum and plenum, i.e. that they have an idea of extension void of solidity though they deny its existence or else they dispute about nothing at all. For they who so much alter the signification of words as to call extension body and consequently make the whole essence of body to be nothing but pure extension must talk absurdly whenever they speak of vacuum, since it is impossible for extension to be without extension for vacuum whether we affirm or deny it signifies space without body whose very existence no one can deny to be possible who will not make matter infinite and take from God a power to annihilate any particle of it.

Precisely because he thinks no one can affirm an infinite body and because he conceives space to be a void distinct from bodies, Locke finds it necessary to affirm the infinity of space. I would ask, he says, whether if God placed a man at the extremity of corporeal beings, he could not stretch his hand beyond his body. If he could, then he would put his arm where there was before space without body. Furthermore, if it be impossible for any particle of matter to move but into empty space, the same possibility of a body's moving into a void space be-

yond the utmost bounds of body as well as into a void space interspersed amongst bodies will always remain clear and evident. So that wherever the mind places itself by any thought either amongst or remote from all bodies it can in this uniform idea of space nowhere find any bounds, any end, and so must necessarily conclude it to be actually infinite.

IT MAY SEEM PARADOXICAL that pure space—space existing without matter—is denied by one who also denies the existence of matter. When I speak of pure or empty space Berkeley writes: it is not to be supposed that the word space stands for an idea distinct from or conceivable without body or motion. What is meant he suggests is merely that the resistance one body gives to another in motion is absent when space is relatively empty. But this is always relative. In proportion as the resistance is lesser or greater Berkeley says the space is more or less pure. There would be absolutely pure space only if all bodies other than his own were annihilated. If that too were annihilated Berkeley concludes then there could be no motion, and consequently no Space.

All these contradictions concerning space enter into Kant's statement of the first cosmological antinomy in which the thesis that the world is limited with regard to space and the antithesis that the world is infinite in space seem to be equally susceptible to proof—and so to disproof! Both alternatives violate our empirical concepts.

If space is infinite and unlimited Kant writes it is too large for every possible empirical concept. If it is finite and limited you have a perfect right to ask what determines that limit. Empty space is not an independent correlate of things and cannot be a final condition still less an empirical condition forming part of possible experience—for how can there be experience of what is absolutely void? But in order to produce an absolute totality in an empirical synthesis it is always requisite that the unconditioned should be an empirical concept. Thus it follows that a limited world would be too small for your concept.

Space itself however is for Kant not an empirical concept which has been derived from external experience. Rather it is a necessary

representation *a priori* forming the very foundation of all external intuitions and as Kant explains in his *Prolegomena* it establishes geometry as an *a priori* science. Space is nothing but the form of all phenomena of the external senses; it is the subjective condition of our sensibility without which no external intuition is possible for us. Nothing which is seen in space is a thing by itself nor is space a form of things supposed to belong in them by themselves. The external objects which we perceive in space are nothing but representations of our senses, the form of which is space.

So far as the experience of space is concerned, William James seems to take an opposite view. Time and space relations he says are impressed from without and stamp copies of themselves within. To the Kantian theory that space is a quality produced out of the inward resources of the mind to envelope sensations which as given originally are not spatial James replies that he can find no introspective experience of mentally producing or creating space.

He proposes two other alternatives: either (1) there is no spatial quality of sensation at all and space is a mere symbol of succession or (2) there is an extensive quality given immediately in certain particular sensations. The second seems to James best suited to explain the development of our perceptions of space and he does not think it inconsistent with the *a priori* or non-empirical character of geometry whose necessary truths refer to ideal objects, not to experienced things in physical space.

THE CHAPTER ON MATHEMATICS considers the relation of the postulates of diverse geometries to the diversity of Euclidean and non-Euclidean spaces such as that of the flat plane, the surface of a sphere, and the surface of a pseudosphere. Just as different parallel postulates select different spaces for geometrical construction so a postulate like Euclid's concerning the equality of all right angles seems to assume a uniformity of space which permits geometrical figures to be transposed without alteration. If translation through space warped or magnified forms James remarks then the relations of equality etc. would always have to be expressed with a position-qualification added.

Confronted with a variety of purely mathematical spaces the physicist is concerned with the problem of which geometry is as Einstein says in correspondence with a real object or true of the real world. According to the general theory of relativity the geometrical properties of space are not independent. Einstein writes but are determined by matter. It follows that our assumptions about the distribution of matter determine the character of the world's space.

On the assumption of a world not inhabited by matter everywhere in whose infinite space the average density of matter would necessarily be *nil*. Einstein says we can imagine a quasi Euclidean universe analogous to a surface which is irregularly curved in its individual parts but which nowhere departs appreciably from a plane something like the rippled surface of a lake. But if the average density of matter differs from zero however small may be that difference then the universe can not be quasi Euclidean. It would be spherical (or elliptical) if the matter were uniformly distributed but since in reality the detailed distribution of matter is not uniform Einstein concludes that the real universe will deviate in individual parts from the spherical *if* the universe will be quasi spherical. But it will be necessarily finite.

The nature of the actual space of the universe thus seems to be related to the issue whether physical as opposed to mathematical space is a void or filled with matter. Defining a vacuum as a space empty of all bodies known to the senses Pascal insists that there is as much difference between nothingness and space as there is between empty space and a material body so that empty space occupies the mean between matter and nothingness. Torricelli's experiments seem to him complete proof against the disciples of Aristotle for they upset the belief that nature abhors a vacuum.

Gilbert's observations on magnetic influences Newton's observations on the transmission of light and heat as well as gravitational pull and Faraday's on electrical phenomena all seem to admit the possibility of action at a distance or through a vacuum. But the question remains whether the so called physical vacuum

is an absolute void or merely empty of all bodies known to the senses.

Is not the heat of the warm room conveyed through the *vacuum*? Newton asks by the vibrations of a much subtler medium than air which after the air was drawn out remained in the *vacuum*? And is not this medium the same with that medium by which light is refracted and reflected and by whose vibrations light communicates heat to bodies? And is not this medium exceedingly more rare and subtler than the air and exceedingly more elastic and active? And does it not readily pervade all bodies? And is it not (by its elastic force) expanded through all the heavens?

Huygens also refers to an ethereal matter as the medium for the propagation of light. One will see he writes that it is not the same that serves for the propagation of sound. It is not the same air but another kind of matter in which light spreads since if the air is removed from the vessel the light does not cease to traverse it as before. But this ethereal medium without which bodies would act at a distance upon one another—gravitationally magnetically electrically—through an absolute void seems to have contrary properties. It is not only subtler than air but as Newton suggests it may be denser than quicksilver or gold since planets and comets and all gross bodies perform their motions more freely and with less resistance in this ethereal medium than in any fluid which fills all space adequately without leaving any pores. And in still another place he asks What is there in places almost empty of matter and whence is it that the Sun and Planets gravitate towards one another without dense matter between them?

Whatever may be thought of the ether as a physical hypothesis the problem still remains whether action can take place at a distance through a void or must employ what Faraday calls *physical* lines of force through filled space. Faraday thinks the evidences support the latter alternative for both electricity and magnetism. He quotes a letter from Newton to Bentley to show that Newton was an unhesitating believer in physical lines of gravitating force.

John Clerk posthumously discovered Newton says. That gravity should be innate in

herent and essential to matter so that one body may act upon another at a distance through a *vacuum* without the mediation of anything else by and through which their action and force may be conveyed from one to another is to me so great an absurdity that I believe no man who has in philosophical matters a competent faculty of thinking can ever fall into it

## OUTLINE OF TOPICS

### 1 Space place and matter

- 1a Space or extension as the essence or property of bodies space the receptacle and becoming
- 1b Place as the envelope or container of bodies place as a part of space or as relative position in space
- 1c The tridimensionality of bodies the indeterminate dimensions of pure space or prime matter
- 1d The exclusiveness of bodily occupation of space impenetrability

### 2 Space void and motion

- 2a The role of space or place in local motion the theory of proper places absolute and relative space
- 2b The issue of the void or vacuum
  - (1) The distinction between empty and filled space
  - (2) The indispensability of void or vacuum for motion and division the absence of void in atoms
  - (3) The denial of void or vacuum in favor of a plenum
- 2c Space as a medium of physical action the ether and action-at-a distance the phenomena of gravitation radiation and electricity

### 3 Space quantity and relation

- 3a The finitude or infinity of space the continuity and divisibility of space
- 3b The relation of physical and mathematical space sensible and ideal space
- 3c Geometrical space its kinds and properties spatial relationships and configurations
- 3d The measurement of spaces distances and sizes trigonometry the use of parallels

### 4 The knowledge of space and figures

- 4a Space as the divine sensorium and space as a transcendental form of intuition the *a priori* foundations of geometry
- 4b The controversy concerning innate and acquired space perception
- 4c The perception of space differences between visual auditory and tactual space perspective and spatial illusions

### 5 The mode of existence of geometrical objects their character as abstractions their relation to intelligible matter

### 6 The spiritual significance of place position and space

## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HORTON *Had* BK I [265-283] 12d the number 4 is the number of the volume in the set; the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page; the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS** One or more of the main divisions of a work (such as PART, BK, CH, SEC) are sometimes included in the reference line numbers in brackets; a c given in certain cases e.g. *Iliad* BK II [265-283] 12d.

**BIBLIOGRAPHIC REFERENCES** These references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters verses the King James version is cited first and the Douay indicated by a (D) follows e.g. *Old Testament* Nehemiah 7 45—(D) II Esdras 7 46.

**SYMBOLS** The abbreviation esp. calls the reader's attention to one or more especially relevant part of a whole reference. *passim* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas*; consult the Preface.

## 1 Space place and matter

## 1a Space or extension as the essence or property of bodies; space the receptacle and becoming

7 PLATO *Timaeus* 455c-458b

8 ARISTOTLE *Physics* K I CH 9 [192-9 14] 268a BK IV CH 2 [2 9<sup>th</sup> 230 11] 288b d H 4 [21<sup>st</sup> 212<sup>nd</sup>] 290 291a

17 PLOTINUS *Third Ennead* TR V CH 13 114 115b CH 19 118 119a

19 AQUINA *Summa Theologiae* PART I Q 66 A 1 R 1 343d 345c

23 HOBBS *Leviathan* ART V 270d 271a

31 DESCARTES *Rules* X V 29b 32 / *Discourse* PART IV 52d 53a / *Meditations* II 78c d / *Objections* d *Replies* DEF VII 130c d 135d 136a 154a

33 PASCAL *Vacuum* 370a

35 LOCKE *Human Understanding* g K I R XII SECT II 7 150d 154d CH XV 3 T 4 162d 163a CH XVI 3 T 20 172d 173 K II CH VI SECT 5 69b-c SECT 2 273 d H X T 6 293b

4. KANT *Precis of Reason* 28b 33d

## 1b Place the envelope or container of bodies; place as a part of space as related to position in space

8 ARISTOTLE *Physics* BK IV CH I-5 287a 292c esp CH 4 289d 291c / *Heaven* BK I 7 [75<sup>th</sup> 12] 366d

17 PLOTINUS *Fourth Ennead* TR III CH 152b / *Sixth Ennead* TR I CH 14 260b c

19 AQUINAS *Summa Theologiae* PART I Q 8 A 2 AN and REP 3 35 36b Q 50 A 1 R P 3 269b 270 [ ] 278d 280d Q 53 A ANS 280d 282 Q 66 A 4 REP 5 348d 349d

20 AQUINA *Summa Theologiae* PART III Q 83 A 2 AN and R P 3 976 978c A 3 R 3 4 978 980d A 5 ANS 981b 982c Q 84 A 2 R P 1 984c 985d

23 HOBBS *Leviathan* PART I 172b PART V 270d 271c

31 DESCARTES *Rules* X X 23 d X II 26b c / *Meditations* I 78c d / *Objections* and *Replies* 228 229a

33 PASCAL *Vacuum* 375a 376

34 NEWTON *Principles of Natural Philosophy* CHOL 9 10 11

35 LOCKE *Human Understanding* g BK CH IV



- (1) *Space place and matter* 1b *Place as the envelope or container of bodies. place as a part of space or as relation position in space*  
 SECT 2 129c d SECT 5 130d 131a CH XIII  
 E CT 7 10 149d 150d CH XV SECT 5-8 163b 164b

35 BERKELEY *Human Knowledge* SECT III 434c

4 KANT *Judgement* 611d 612a

53 JAMES *Psychology* 139a 140a 626b

- 1c The tridimensionalty of bodies the indefinite dimensions of pure space or prime matter

7 PLATO *Timaeus* 455c-458b

8 ARISTOTLE *Topics* BK VI CH 5 [142<sup>b</sup>20-9] 196b / *Physics* BK IV CH I [209<sup>a</sup>5-7] 287d / *Heavens* BK I CH I 359a-c / *Metaphysics* BK I CH II [1016<sup>a</sup>25 31] 537b CH I3 [102<sup>a</sup>7 14] 541b BK VII CH 3 [10 9 11 19] 551c d

11 NICO IACHUS *Arithmetic* K II 832c

17 PLOTINUS *Second Ennead* TR IV 50a 57c esp CH 7-9 52a 53b CH 15 56c 57a

18 ALGUSTIN *Confessions* K XII PAR 3-4 99d 100a PAR 15 102b-c

19 AQUINAS *Summa Theologica* PART I Q 3 A 2 CONTR. XV 15c 16a Q 66 A 1 REP 343d 345c

20 AQUINAS *Summa Theologica* PART III SUPPL. Q 9 A 1 REP 3 951b 953b Q 80 A 5 REP 3 963a 964b Q 83 A 2 ANS 976c 978c A 3 REP 1 2 978c 980d A 5 ANS 981b 982c

21 HOBBS *Leviathan* PART IV 269d

31 D SCARTES *Rules* XIV 29b-c 31d / *Meditations* V 93b

31 S I OZA *Ethics* PART I PROP 15 SCHOL. 360b

33 PASCAL *Vacuum* 370a

35 LOCKE *Human Understanding* BK II CH IV E CT 5 130d 131a CH XIV SECT 26 160c d CH XV SECT 1 162b 164b PASSIM CH XVII 167d 174a PASSIM

35 BERKELEY *Human Knowledge* SECT II 436a

52 DOSTOEV KY *Brothers Karama* OR BK V 121a b

- 1d The exclusiveness of bodily occupation of space impenetrability

8 ARISTOTLE *Physics* BK IV CH I [209 5 7] 287d CH 6 [213 4 12] 293a

17 PLOTINUS *Fourth Ennead* TR II CH I 139d

19 AQUINAS *Summa Theologica* THE LOGICA PART I Q 8 A ANS 35c 36b Q 52 A 3 RE 1 280 d

20 AQUINAS *Summa Theologica* PART III SUPPL. Q 83 A 2 4 976c 981b A 5 ANS and REP 2 981b 982c A 6 A 2 and REP 2 982c 983b

23 HOBBS *Leviathan* PART I 54b-c ART IV 271b-c

28 LILLO *Two New Sciences* FIRST DAY 153a 156d 157b

30 BACON *New Organon* BK II APH 36 167b APH 4<sup>a</sup> 179d 180a

31 DESCARTES *Meditationes* II 78c d

33 PASCAL *Pensées* 512 262a / *Vacuum* 370a

34 NEWTON *Principles* BK III RULE III 2<sup>o</sup>b

35 LOCKE *Human Understanding* BK II CH IV 129b 131a CH XV SECT II 165a b BK IV CH VII SECT 5 338b

45 FARADAY *Researches in Electricity* 854c 855a

- 2 Space void and motion

- 2a The role of space or place in local motion. the theory of proper places absolute and relative space

7 PLATO *Timaeus* 453c 455c-458b 460c-d / *Laus* BK I 762b-c

8 ARISTOTLE *Physics* BK III CH 5 [102<sup>a</sup>10-206 5] 283b-284b BK IV CH I [205<sup>a</sup>24] 287a-c CH 2 [210<sup>a</sup>2-4] 285d CH 4 [11 4-6] 290a [212<sup>a</sup>20-28] 291c CH 5 [212<sup>b</sup>9-17] 292b CH 8 [214<sup>a</sup>13 15] 294b [215 10] 294c d BK VI 312b d 325d PASSIM / *Heavens*

BK I CH 2 [265<sup>b</sup>11]-CH 3 [2, 0<sup>a</sup>13] 359d 361b BK I CH 2 [265<sup>b</sup>30 33] 366a CH 7 [275<sup>a</sup>30]-CH 8 [2, 7<sup>a</sup>25] 367a 369a CH 9 [2 8<sup>a</sup>2 3<sup>a</sup>70]

370a b BK II CH 2 376b-377c BK III CH 5 [304<sup>b</sup>11-23] 395d 396a CH 6 [305<sup>a</sup>12 28] 396c BK IV CH I 399a d CH 3-5 401c-404d / *Meteorology*

BK IV CH I 399a d CH 13 [2020<sup>a</sup>25 33] 541c BK II CH 10 [1067 8-33] 595c 596a / *Soul* BK I CH [406 12 29] 635c d

9 ARISTOTLE *Ethics* BK I CH 4 [1174<sup>a</sup>9-35] 428d

11 NICO IACHUS *Arithmetic* BK II 832c

12 LUC ETIUS *Nature of Things* BK I [93<sup>a</sup>-100<sup>a</sup>] 13b [1052 1082] 14a-c BK II [184 20] 17b 18b

16 PROLEMUS *Almagest* BK I 10b-11b

16 COPERNICUS *Revolutions of the Heavenly Spheres* BK I 517b 518a 519b-5 0b

16 KEPLER *Epitome* BK IV 855b 931b-932a

17 PLOTINUS *Third Ennead* TR VII CH 8 123d 124a

19 AQUINAS *Summa Theologica* PART I Q 53 280d 284d

20 AQUINAS *Summa Theologica* PART III SUPPL. Q 84 A 2 REP 1 4-5 984c 985d A 3 A 1 and REP 2 3 985d 989b

21 DANT *Divine Comedy* PURGATORY X 12 [32 33] 80a PARADISE I [94 142] 107b d IV [73-8] 111b-c XVII [40-45] 141d

23 HOBBS *Leviathan* PART I 50 61b PART II 173a PART IV 271a b 271d

28 GILBERT *Loadstone* BK VI 110b-c

28 G LILLO *Two New Sciences* FIRST DAY 163 164a-c THIRD DAY VOLATILE D Y 197a 260a-c esp THIRD DAY 197b-d 200b-c 203a b 2<sup>o</sup>5b-208c

30 HOBBS *Lotum Organum* BK II APH 163 d APH 36 166b-c APH 45 176a 177c APH 49 179d 180d 181d

34 NEWTON *Principles* DEFINITION LAWS OF MOTION Sa 24a esp DEFINITIONS SCHOL 8b-13 BK I II 25a 267a PASSIM esp K I 167b I 7 SCHOL 32b-50a PRO 32 39 81a 85a

- 35 LOCKE *Human Understanding* BK II CH XI I  
SECT 7 10 149d 150d SECT 27 154c CH XV  
S CT 5-8 163b 164b  
35 BERKELEY *Human Knowledge* SECT 110-117  
434b-436a  
42 KANT *Pure Reason* 29c d 31d 32a 55c 56a  
84b-c 135d [fn 2]  
51 TOLSTOY *War and Peace* BK XI 469a d

b The issue of the void or vacuum

b(1) The distinction between empty and filled space

- ARISTOTLE *Physics* BK IV CH I [208<sup>b</sup>25 26]  
287c CH 6-g 292c 297c e p CH 7 [213<sup>b</sup>30-  
314 16] 293b c / *Heavens* K I CH 9 [279 12-  
18] 370b-c BK III CH 2 [30<sup>b</sup>32-3 2 9] 393b  
■ LUCRETIVS *Nature of Things* BK I [329-369]  
5b c [418 448] 6b-c [5 3-550] 7b d  
17 P O T I N U *Fourth Ennead* TR III CH 20 152c  
19 AQUIN *Summa Theologica* PART I Q 46 A  
1 REP 4 250a 252d  
20 AQUINAS *Summa Theologica* PART II SUPPL.  
Q 83 A 2 ANS 976c 978c  
31 SPINOZA *Ethics* PART I PROP 15 SCHOL  
361b d  
33 PAUL AL *Vacuum* 359b 361a 363b 365b  
370a 373b 376a  
35 LOCKE *Human Understanding* BK II CH IV  
■ T-5 129c 131a CH XIII S CT 11 27 150d  
154d esp SECT 21 27 152d 154d CH X V SECT  
6 160c d CH XV S CT 1-4 162b 163b passim  
CH XVI SECT 4 168b d SECT 20 172d 173c  
35 BERKELEY *Human Knowledge* SECT 116-117  
435d-436a  
42 KANT *Pure Reason* 71b 72a 84b 135d  
[fn 2] 152c d

b(2) The indispensability of void or vacuum for motion and division in the absence of void in atoms

- ARISTOTLE *Physics* BK IV CH 6 292c 293b  
K 7 [14 6]-CH 8 [216<sup>a</sup>26] 293d 295d /  
*Heavens* BK I CH 7 [275<sup>b</sup>30 276 5] 367a  
BK II CT 1 [3 1<sup>b</sup>32 3 9] 393b BK IV CH 2  
[3 8<sup>b</sup>29-310 13] 400b-401 / *Generation and  
Corruption* BK I CH 8 [325<sup>a</sup>34 311] 423d 424b  
12 LUCRETIVS *Nature of Things* BK I [329 397]  
5b 6 [4 8-448] 6b c [483-550] 7a d [988-  
007] 13b [1 52 1082] 14a-c K VI [998-  
041] 93c 94a  
20 AQUIN *Summa Theologica* PART I SUPPL.  
Q 84 A 3 REP 2 985d 989b  
28 G I L E O T *New Sciences* FIRST DAY 138b  
141d 151 153a 156d 160a pa im  
30 BACON *Novum Organum* BK II APH 48 187c  
31 SPINOZA *Ethics* PART I PROP 15 S SCHOL,  
361b d  
33 PAUL AL *Vacuum* 359a 381b / *Weight of Air*  
405b-415b  
34 NEWTON *Principles* K I I PRO 6 COROL  
III IV 281b / *Optics* BK III 541b

- 35 LOCKE *Human Understanding* BK II CH XIII  
SECT 23 153c d CH XVII S CT 4 168b d  
45 LAVOISIER *Elements of Chemistry* PART I  
9a b  
45 FARADAY *Researches in Electricity* 850b d  
855a c esp 851a b

2b(3) The denial of void or vacuum in favor of a plenum

- 7 PLATO *Timaeus* 460c d 470d-471c  
8 ARISTOTLE *Physics* BK IV CH 6-g 292c  
297c / *Heavens* BK I CH 9 [279 1 -18] 370b =  
BK II CT 2 [301<sup>b</sup>32-302<sup>a</sup>9] 393b CH 6 [305  
14 22] 396b-c  
10 GALEN *Natural Faculties* BK II CH 6 188c  
189c  
12 LUCRETIVS *Nature of Things* BK I [370 383]  
5c d  
19 AQUINAS *Summa Theologica* ART I Q 46  
AT R P 4 250a 252d Q 52 A 3 RE 2 280a d  
23 HOBBS *Leviathan* PART III 172b PART IV  
269d  
30 BACON *Novum Organum* BK II APH 8 140b  
APH 48 180a 187c  
31 DESCART *Meditations* VI 100d  
31 SPINOZA *Ethics* PART I PROP 15 SCHOL,  
361b d  
33 PASCAL *Vacuum* 376a b 379a 380a  
35 BERKELEY *Human Knowledge* SECT 116-117  
435d-436a  
42 KANT *Pure Reason* 71b 72a 84b c 135d [fn  
2]  
45 FARADAY *Researches in Electricity* 850b d  
855a c esp 854 855a c

2c Space as a medium of physical action: the ether and action at a distance: the phenomena of gravitational radiation and electricity

- ARISTOTLE *Physics* BK VIII CH 20 [266<sup>b</sup>25-  
267<sup>a</sup>20] 354b d / *Heavens* K III K- [301<sup>b</sup>  
16-3] 393a b / *Soul* BK II CH 7 [418<sup>a</sup>27]-c 8  
[420<sup>a</sup>26] 649b 651c K III CH III [434<sup>b</sup>  
435 1] 667 668 / *Dreams* CH 2 [459 28 34]  
703b  
12 LUCRETIVS *Nature of Things* BK I [440 448]  
6c BK VI [906-1 41] B b 94a  
16 KLER Epitome K IV 897b 905a esp 900b  
901b 906a b 922a b 934b BK V 955a B  
19 AQUINAS *Summa Theologica* PART I Q 8 A  
REP 3 34d 35c  
28 GILBERT *Leadstone* BK II 26d-40b esp 30a  
32c 43 -c 45d-47b 51a-c 54d 55c K V  
102d 104b BK VI 112d  
28 G I L E O T *New Sciences* THIRDDAY 202d  
30 BACON *Novum Organum* K APH 30  
107b B APH 37 168d 169 A I 45 176a 177c  
APH 48 183 -c 186a  
31 DESCART *Rules* S IX 15c  
33 PAUL AL *Vacuum* 366 367a  
34 NEWTON *Principles* DE V-VI I B-8a K I  
RO 69 CHO 130b 131a BK I GEN RAL

- (2) *Space void and mot on 2c Space as a medium of phys cal action the eth r and act on-at-a-distance th phenomena of gravitation radiation and electr city)*

SCHOL. 371b-372a / *Optus* BK III 516a b  
520a 522b esp 521a b 525b 529a 531b  
542a passim esp 531b

34 HUYGENS *Light* CH I 553b 560b

35 BERKELEY *Human Knowledge* SECT 102 108  
432d-434a passim

35 HUME *Human Understanding* SECT VII DIV  
57 475d [fn 2]

36 SWIFT *Gulliver* PART III 118b 119a

42 KANT *Pure Reason* 8d [fn 2] 227b

45 LAVOISIER *Elements of Chemistry* PART I 9b c

45 FARADAY *Researches in Electricity* 441a-442b  
451a-454a 463d-465d 513d 514c 521a 524a  
528c 532a 604b-c 631b-c 648b d 685d  
686c 816b d 819a c 819a d 824a b 832a-c  
840c-842c 855a c

III TOLSTOY *War and Peace* EPILOGUE II 687d  
695c

### 3 Space quantity and relation

- 3a The finitude or infinity of space the continuity and divisibility of space

8 ARISTOTLE *Categories* CH 6 [5 6-23] 9b c /  
*Physics* BK III CH 5 [205 10-206 8] 283b 284b  
BK IV CH 5 [212<sup>a</sup> 11 21] 292a / *Metaphysics* BK I  
CH 9 [279 = 24] 370b d / *Metaphysics* BK V  
CH 13 [1020 25 33] 541c BK XI CH 10 [1067 8-  
33] 595c 596a

11 ARCHIMEDES *Sand Reckoner* 520a 526b passim

12 LUCRETIVS *Nature of Things* BK I [951 1 07]  
12d 13b BK II [89-94] 16a b [1048 1063]  
28b-c BK VI [647-652] 89a

16 PROCLY *Almagest* BK I 10b

16 COERNICUS *Revolutions of the Heavenly Spheres* BK I 516a 517b

16 KEPLER *Epitome* BK IV 882a 886b

18 AUGUSTINE *City of God* BK XI CH 5 324d  
325c

19 AQUINAS *Summa Theologica* PART I Q 8 A  
4 RE 3 37c 38c Q 46 A 1 REP 8 250a 252d  
Q 52 A 1 278d 279b Q 53 A 1 ANS 2 DREP 1  
280d 282a A 2 ANS nd REP 1 282 283b

20 AQUINAS *Summa Theologiae* A 1 RE 11 REP 1  
Q 84 A 3 CONTRA 985d 989b

21 IIO DES LESI *th* PART I 54b-c 61b PART  
II 162b P RT IV 273b

30 PICO CONDOMINI *Ogismi* BK I APH 48 110d  
111a

31 D. CRYSTO *Objections and Replies* 1 12b

33 PASCAL *Pensées* 121 195a 205 2 6 211a /  
*Geometrie d'Demetrius* 434b 439b

34 NEWTON *Principles of Mathematics* SCOL. 8b-  
11a / *Optic* BK III 543a

35 LOCKE *Human Understanding* BK II CH XI  
SECT 4 149b SECT 21 152d 153b CH XIV

SECT 26 160c d CH XV SECT 1-8 162b-164b  
passim CH XVI SECT 8 167c CH XVII 16 d  
174a passim esp SECT 3 4 168b d SECT II  
170c

35 BERKELEY *Human Knowledge* SECT II 436a

42 KANT *Pure Reason* 24c d 28b-29c 135a  
137a = 152a d 160b 163a esp 162b /  *judgment* 501a b

51 TOLSTOY *War and Peace* EPILOGUE II 683c  
694a passim

53 JAMES *Psychology* 631a

54 FREUD *General Introduction* 562c d

- 3b The relation of physical and mathematical space sensible and ideal space

8 ARISTOTLE *Physics* BK IV CH I [209 2]  
287d CH 8 [216<sup>a</sup> 2 11] 296a b / *Metaphysics*  
BK XIV CH 5 [1002 18 21] 625a

20 AQUINAS *Summa Theologiae* PART III SUPPL.  
Q 83 A 2 ANS 976c 978c A 3 REP 1 29 b  
980d

31 DESCARTES *Rules* XIV 28a 33b / *Dissertation*  
PART IV 52d 53a / *Objections and Replies*  
169c 170a

33 PASCAL *Vacuum* 370a 373a 374a

34 NEWTON *Principles* DEFINITIONS SCHOL 1b-  
13a esp 8b 9a 12a b

35 LOCKE *Human Understanding* BK II CH IV  
SECT 5 130d 131a CH XIV SECT 26 160c d  
CH XV SECT 1-8 162b-164b passim

35 BERKELEY *Human Knowledge* SECT 110-117  
434b-436a SECT 124 128 437d-438d

42 KANT *Pure Reason* 24a 26b 161d 163a /  
*Judgement* 574b-575a

53 JAMES *Psychology* 877b

- 3c Geometrical space its kinds and properties spatial relationships and configurations

8 ARISTOTLE *Categories* CH 6 [5 1 23] 9b c /  
*Elements* BK I CH 1 359a c / *Metaphysics* BK  
V CH 6 [1016<sup>a</sup> 25 31] 537b

11 EUCLID *Elements* BK I DEFINITIONS 1 15  
1a 14 1b POSTULATES esp 5 2a COMMON  
NOTIONS 4 2a PROP 4 4a b PROP 8 6b 7a  
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18b 19a BK X PROP 1 191b-192a BK XI  
DEFINITION 1 301a

11 ALCIBADES *Sphere and Cylinder* BK I  
SUMPTIONS c p 5 404b / *Sphaera* 431b /  
*Quadrature of the Parabola* 527b

11 NIOMACHUS *Arithmetic* BK II 832b-d

16 KEPLER *Epitome* BK IV 865a b

17 PLOTINUS *Sixth Ennead* TR III CH 13 14  
28 d 289a

19 AQUINAS *Summa Theologiae* PART I Q 8  
A 8 REP 2 460b-461b

31 DESCARTES *Method* XIV 28a-33b esp 30d 3  
V CH I SECT PART IV 52d 53a / *Meditations*  
V 93 d VI 96b-d / *Objections and Replies*  
217a-c 228c 229a

- 5 LOCKE *Human Understanding* BK II CH XIII  
SECT 5-6 149b d  
15 BERKELEY *Human Knowledge* SECT 123 132  
437-439  
15 HUME *Human Understanding* SECT XII DIV  
124 125 506a 507 passim  
15 KANT *Pure Reason* 24a 26b  
15 DOSTOEVSKY *Brothers Karamazov* BK V  
121a b

- 53 JENSEN *Philosophy* 550b 551b [fn 1] 876b-  
878a esp 877b

- The measurement of space and distances and  
size trigonometry the use of parallax

- 16 PROCLAM *Almagest* BK V 165a 176a BK IV  
270a b  
16 COPENICUS *Revolutions of the Heavenly  
Spheres* BK I 516a b 521b 529a BK IV 705a  
714b  
16 KEPLER *Eplome* BK IV 861a 863b 868b  
887a / *Harmors of the World* 1016b 1018a  
16 BROWNE *Universal Organum* BK I APH 09 129b  
BK II A 39 170b-c APH 45 170a 177c  
31 DE CARTES *Rules* XIV 31b-33b  
34 NEWTON *Principles* BK III L 404a 4 333a  
337b  
41 GRANT *Decline and Fall* 299b c  
53 JAMES *Psychology* 551a b 673b

- The knowledge of space and figures

- Space as the distinctive sensorium and space  
as a transcendent form of intuition  
the a priori foundation of geometry

- 34 NEWTON *Principles* BK III GENERAL SCHOL.  
370 371a / *Optics* BK III 529a 542a 543a  
42 KEPLER *Pure Reason* on 16a-c 17d 18d 23a 26b  
31b d 46 55c 56a 62 d 68a 69 86b-c  
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187 211 218d esp 211 212a 213d 215a /  
*Practical Reason* 307d 308b 312c 313d /  
*Judgement* 471b-c 551 553 574b 575a  
53 JENSEN *Psychology* 629a 631a 874 876b-  
878a

- The controversy concerning innate and  
acquired space perception

- 42 KANT *Pure Reason* 23a 24a 25 26a 31d  
32c / *Practical Reason* n 307d 308b  
53 JENSEN *Psychology* 474-475 627 635 esp  
628b 631 633a 635a 852b 853a 860b 861

- The perception of space differences be-  
tween actual and ideal spatial  
perspective and spatial illusion

- 8 ARISTOTLE *Semantics and the Semantics* CH 6  
[445b 18] 683b d / *Memory and Remem-  
brance* CH [452b 7] 694b-c  
12 LEIBNIZ *Natural Philosophy* K [3 8 33]  
19a BK IV [30-55] 47b-c [69-91] 47d  
48a [353 421] 48d 50a

- 17 PLOTINUS *Second Ennead* TR VIII 64c 65c

- 35 LOCKE *Human Understanding* BK II CH XIII  
SECT 2 149a s CT 5 149b c

- 35 BERKELEY *Human Knowledge* SECT 42-44  
420c-421a

- 53 JENSEN *Psychology* 318b 400a 406b 410a b  
471b-479a esp 474a-477b 540a-635a esp  
541a 548b 552a 560a 575a 627a-635a

- 5 The mode of existence of geometric objects  
the character as abstractions  
the relation to intelligible matter

- 7 PLATO *Republic* BK VI 387b-c BK VII 394b c  
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## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the ideas and topics with which this chapter deals. These works are divided into two groups:

I Works by authors represented in this collection

II Works by authors not represented in this collection

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## Chapter 90 STATE

### INTRODUCTION

IS man gregarious in the same sense as other animals are? Is he unlike other social animals the only political animal? Does man pattern the state after his own nature or does he in imitation of the angels try to live up to a city in the skies—a model of rationality or a utopian illusion? According to the way such questions are answered different theories of the state develop in the tradition of western thought

But it is not only the view man takes of his social nature which affects his view of society or the state. His conception of the state is also colored by his understanding of man's place in nature and by his understanding of man's relation to God. On one view the state is ordered to the service of man; on another man is thought to be a creature of the state and the state is made God; on still another man—like Antigone in Sophocles' play—seems to be torn between serving the state and serving God.

If man admits anything to be his superior, he acknowledges his inferiority only to God or to the state. That the idea of God and the idea of the state compete for maximum attention in the tradition of western thought is a significant and readily intelligible fact. That the word *sovereign*, which connotes *absolute supremacy*, has both political and religious significance, throws further light on this rivalry. It immediately suggests all the issues of church and state, of the spiritual and the temporal power of the city of God and the city of man.

Even without the aura of divinity, the state in the conception of many writers assumes by comparison with the individual man the proportions of the greatest living thing on earth. For Plato it is the counterpart of the human soul, many times magnified. For Aristotle it is like an organic whole to which the individual belongs just as his own arm or leg belongs to

him as an organic part. For Hobbes it is the body politic—that Leviathan which dwarfs its members. For Rousseau it is the corporate person having a general will more perfect than the individual will—infallible or almost infallible. When to these images of the state is added the highest transfiguration—that by which the state becomes according to Hegel the image of God on earth or the embodiment of Absolute Spirit—the greatness of the state cannot be magnified further.

THE PASSAGES IN WHICH these conceptions first appear are among the most famous in the literature of the theory of the state. In the *Republic* Socrates proposes that we inquire into the nature of justice and injustice first as they appear in the State and secondly in the individual, proceeding from the greater to the lesser and comparing them. After the structure of the state has been examined in terms of its constituent classes and their functions or relations to one another, Socrates returns to the individual. We may assume he says that he has the same three principles in his own soul which are found in the state, and in another place he adds that there appear to be as many forms of the soul as there are distinct forms of the State.

Whereas Plato analogizes the social classes in the state with the parts of the soul, Aristotle compares the state in relation to the individual with the body in relation to its members. The state is by nature clearly prior to the family and to the individual. Aristotle writes: since the whole is of necessity prior to the part, for example, if the whole body be destroyed there will be no foot or hand, except in an equivocal sense. The proof that the state is a creation of nature and prior to the individual is that the individual when isolated is not self-sufficient.

and therefore he is like a part in relation to the whole

The analogical conception of the state takes a different turn with Hobbes. The state is a work of art not a creation of nature. Nature (the Art whereby God hath made and governs the world) says Hobbes is by the Art of man as in many other things so in this also imitated that it can make an Artificial Animal. The machines men make—engines that move themselves by springs and wheels as doth a watch—seem to Hobbes to have an artificial life. But

Art goes yet further imitating that Rational and most excellent work of Nature. Man. For by Art is created that great Leviathan called a Commonwealth or State (in Latin *Civitas*) which is but an Artificial Man though of greater stature and strength than the Natural for whose protection and defense it was intended and in which the Sovereignty is an Artificial Soul as giving life and motion to the whole body.

Hobbes also speaks of the multitude being united in one Person as the generation of that great Leviathan or rather (to speak more reverently) of that Mortal God to which we owe under the Immortal God our peace and defence. It is both divine and human for that which is compounded of the powers of most men united by consent in one person natural or civil is according to Hobbes the greatest of human powers.

Rousseau has a number of different names for the moral and collective body formed by the association of individuals. This public person he says formerly took the name *city* and now takes that of *Republic* or *body politic*. It is called by its members *State* when passive *Sovereign* when active and *Power* when compared with others like itself. But Rousseau's primary emphasis seems to be upon the personality of the State: it is a corporate person with moral qualities and intellectual faculties. He refers repeatedly to the State as a *persona ficta* and as a moral person whose life is in the union of its members.

Many of these comparisons or analogies recur in Hegel's theory of the state. But for Hegel they are no longer metaphors: they are the elements of a literal definition. The state is an organism says Hegel. It is the organic whole

no part of which can have a separate life. As occurs with life in the physical organism he writes life is present in every cell and separated from that life every cell dies. This is the same as the ideality of every single class power and Corporation as soon as they have the impulse to subsist and be independent. It is with them as with the belly in the organism. It too asserts its independence but at the same time its independence is set aside and it is sacrificed and absorbed into the whole.

But the state is not merely a living organism. To the mature state says Hegel thought and consciousness essentially belong. As high as mind stands above nature so high does the state stand above physical life. Man must therefore venerate the state as the divine on earth and observe that if it is difficult to comprehend nature it is infinitely harder to understand the state. In saying this Hegel seems to go beyond analogy to the assertion of a definition. The march of God in the world that is what the state is he declares. The basis of the state is the power of the reason actualizing itself as will. In considering the Idea of the state we must not have our eyes on particular states or on particular institutions. Instead we must consider the Idea this actual God by itself.

To those who object that the state is finite Hegel replies that to hold that mind on earth is the state is only a finite mind is a one-sided view since there is nothing irrational about actuality. Of course a bad state is worldly and finite and nothing else. But the rational state is inherently infinite. As simply stated by Hegel in the Introduction to his *Philosophy of History* the State is the Divine Idea as it exists on Earth.

THE DIVERSE CONCEPTIONS of the state raise major issues in political theory concerning the origin of the state and the end it serves in both of which is involved the problem of the individual's relation to the state. That problem is touched on in the chapter on CITIZEN and wherever the problem of the common good or the general welfare is discussed. Here the question whether the state is made for man or man for the state whether the state subordinates the individual in every phase of his life or only in those matters which



takes precedence over private interests serves critically to test the practical significance of different theories of the state. Here also questions concerning the relation of the family to the state—discussed from the point of view of the domestic community in the chapter on **FAMILY**—throw light on the nature and origin of the political community.

The word *community* and its synonym *society* seem to be more inclusive in meaning than *state*. The family and the state are both communities—associations of individuals for a common purpose and sharing in a common life. The word *state* is customarily used only for the developed political society—whether a city-state, a feudal state, or a nation state; the word *society* usually covers the tribal community, the village, or any community which is politically primitive and has some of the characteristics of a large family. In addition, there are within the state, at least in its modern formation, many organized groups which deserve the name *society*—economic corporations and other associations, religious, educational, professional, recreational, and more comprehensive than any particular political community are the cities of God and man which in Augustine's conception of them are not to be identified with either the Church or the State.

With the rise of the science of sociology in our time, the idea of society has come to be regarded as more general than that of state. But in the tradition of the great books, particularly those of political theory, the state seems to be considered the epitome of human society. All other forms of association are for the most part discussed only in their relation to the state, either as the antecedents from which the state develops, or as the subordinate organizations which it includes, or sometimes, as in the case of the church, a distinct but coordinate community.

The nature of society in general and the problem of different types of social organization and development are not treated in the great books except in their bearing on the family, the church, or the state—the three communities which seem to be taken as representative or basic. Hence there is no chapter on society or community as such. What for modern

sociology is a unified subject matter, here divides into a number of related yet distinct ideas—the domestic community being treated in the chapter on **FAMILY**, the religious community in the chapter on **RELIGION**, the various forms of economic organization in the chapters on **LABOR** and **WEALTH**. In this chapter, therefore, we shall confine our attention to the specifically political community, both in itself and in relation to these other communities or social groups.

CONCEIVED IN POLITICAL terms, the problems of the state would seem to be inseparable from the problems of government. Yet the ideas of state and government may be separated to the extent that one signifies the political community as a whole and the other the organization of its members according to relationships of ruler and ruled. Furthermore, the state may in one sense remain the same while in another it changes with changes in its form of government.

Some writers like Aristotle and Hegel tend to identify state and government. Aristotle, for example, says that the sameness of the state consists chiefly in the sameness of its constitution. Others like Locke and Rousseau seem to regard government as part of the state, the chief institution of a civil society or political community, but definitely a means for securing the ends for which the state is formed. For Locke, government is primarily the legislative power; for Rousseau, it is the supreme administration, the legitimate exercise of the executive power, but for both it is a representative body—an organ of the whole body politic.

Insofar as the great political theorists distinguish problems of the external relation of states with one another from those which concern the internal organization of the state, and the relation of the state to its own members, they also tend to distinguish state from government. Hegel's distinction between external and internal sovereignty, for example, conceives the whole community as a sovereign state in relation to other communities, and the state as a sovereign government in relation to its own members.

Such questions of sovereignty, or more generally of the relation of states to one another, belong to this chapter as well as to the chapter

ON WAR AND PEACE but the theory of government is for the most part treated elsewhere—in the chapters on GOVERNMENT and CONSTITUTION and in all the chapters dealing with the special forms of government. Still other problems of government which have a bearing on the nature of the state its powers and its limits are dealt with in the chapters on JUSTICE and LAW.

THAT IT IS SOMEHOW natural for men to associate politically is generally affirmed even by those who also think the state is artificial or conventional. No one takes either of the possible extreme positions that the state as a purely voluntary association is without any basis at all in man's nature and needs or that the state like the bee hive and the ant mound is purely a production of instinct.

Saying that man is by nature a political animal Aristotle goes on to remark that man is more of a political animal than bees or other gregarious animals. But the difference Aristotle points out between man and other social animals may make man the *only* political animal. It consists in the fact that man being the only animal endowed with the gift of speech can communicate with his fellows concerning the expedient and inexpedient and therefore likewise the just and the unjust. What characterizes human associations according to Aristotle is that they are built upon a shared sense of the expedient and the just. Justice he writes is the bond of men in states.

Hobbes also distinguishes between human and animal societies but seems to interpret the distinction differently. Bees and ants live socially one with another he says and yet have no other direction than their particular judgments and appetites nor speech whereby one of them can signify to another what he thinks expedient for the common benefit. Inquiring why man kind cannot do the same—that is live sociably without government and law—Hobbes offers a number of explanations of which the last is that the agreement of these creatures is natural that of men is by covenant only which is artificial and therefore it is no wonder if there be somewhat else required (besides covenant) to make their agreement constant and lasting which is common power to keep them in awe

and to direct their actions to the common benefit.

But though Hobbes calls the state artificial because he holds it to be the product of a contract he does not deny the natural necessity which drives men to the creation of a commonwealth. Man quits the state of nature which is a war of every man against every man to achieve self preservation or at least to enjoy the security of civil peace and the freedom from fear of violence.

As natural as it may be for men to be in that condition which is called war when they live without a common power to keep them all in awe it is equally natural according to Hobbes for men to seek peace. The passions that incline men to peace are fear of death desire of such things as are necessary to commodious living and a hope by their industry to obtain them. And reason suggesteth convenient articles of peace upon which men may be drawn to agreement. The commonwealth is therefore natural to the extent that man's needs and passions require it and man's reason recognizes certain natural laws for constructing it.

The state is naturally necessary not as the effect of instinctive determinations but as the rationally determined means to an end. If the end the state serves were not naturally sought or if there were any other means which reason could devise for accomplishing that end the state would be purely conventional—and dispensable. The final cause end or design of men in the introduction of that restraint upon themselves (in which we see them live in commonwealths) is according to Hobbes the sight of their own preservation and of a more contented life thereby.

In this man's particular Aristotle's account of the origin of the state seems to be the same. Though he does not attribute its formation to a contract and does not make fear the predominant motive he does regard the state as natural *only because* of its indispensability as a means for achieving the ends men naturally seek. The family is natural. Aristotle suggests because it is necessary for the perpetuation of the race and for the supply of men everyday wants. When men aim at something more than the supply of daily needs the first society

to be formed is the village —normally, an association of families. And when several villages are united in a single complete community large enough to be nearly or quite self-sufficing the state comes into existence, originating in the bare needs of life and continuing in existence for the sake of a good life. Therefore if the earlier forms of society are natural, so is the state.

The implication seems to be that if men were not naturally impelled to seek a better life than the family or the tribal community can provide—in other words, if the family or village satisfied all of man's natural needs for society—the larger community, the state, would be neither natural nor necessary. That man is by nature a political animal does not therefore mean that men have always and everywhere lived in states.

Aristotle refers to the man who lives apart from society, describing the natural outcast—the tribeless, lawless, heartless one whom Homer denounces—as a lover of war. He conceives the state as coming into being subsequent to more primitive forms of social life, each type of community being successively established with a view to some good for man. Kind always act in order to obtain that which they think good. Since he thinks that the state aims at good in a greater degree than any other and at the highest good, he praises the man who first founded the state as the greatest of benefactors.

FOR ARISTOTLE THEN there seems to be no inconsistency in saying that the state is as natural as the family and also that it is the result of a convention, i.e., a voluntary association of men. Nor does there seem to be any inconsistency between Hobbes' view that the state is produced by a covenant of every man with every man and his understanding of the naturalness of the state in terms of the impulses which lead men to enter into this contract. The same double note appears in the account of the state's origin which Locke, Rousseau, and Kant give. The issue raised by the contract theory thus seems to turn on the interpretation of the original convention—whether or not it has legal significance and what obligations or limitations it imposes.

Where Hobbes, for example, interprets the contract as creating, along with the common

wealth, a sovereign person having absolute power, Locke seems to make majority rule the legal consequence of the original compact. God designed man for a sociable creature according to Locke, with an inclination and under a necessity to have fellowship with those of his own kind. Yet even what he calls the first society, between man and wife, Locke says, is made by a voluntary compact. It makes no difference to Locke's theory whether political societies develop by expansion from the family (which he takes to be the normal course of events) or result from a voluntary association of independent men.

In either case, political as distinguished from domestic society does not begin until every man, by consenting with others to make one body politic under one government, puts himself under an obligation to every one of that society to submit to the determination of the majority. This is done by barely agreeing to unite into one political society, which is all the compact that is or needs be between the individuals that enter into or make up a commonwealth. And thus that which begins and actually constitutes any political society is nothing but the consent of any number of free men capable of a majority to unite and incorporate into such a society.

If it is that and that only which did or could give beginning to any lawful government in the world, it seems to be equally evident to Locke that absolute monarchy, which by some men is counted the only government in the world, is indeed inconsistent with civil society and so can be no form of civil government at all.

Though Rousseau says that the most ancient of all societies, the family, is the only one that is natural, he qualifies this by adding that it remains natural only so long as the children need the family for their preservation. If the members of the family remain united thereafter, they continue so no longer naturally but voluntarily, and the family itself is then maintained only by convention. By the same criterion, civil society would seem to be natural at least on Rousseau's own supposition that the obstacles in the way of their preservation in the state of nature are greater than the power of isolated individuals or families to maintain

themselves, and so the human race would perish unless it changed its manner of existence.

Rousseau furthermore explicitly denies that the transition from a state of nature to a state of civil society can be treated as an historical fact. It is an hypothesis calculated to explain the nature of things [rather] than to ascertain their actual origin. The social contract which Rousseau sometimes calls the first convention is, therefore, the legal not the historical origin of the state. As he formulates the compact each of us puts his person and all his power in common under the supreme direction of the general will and in our corporate capacity we receive each member as an indivisible part of the whole.

Though all the qualities of the general will may reside in the majority so that the general will can be discovered by a majority vote unanimity is required to create the sovereign body politic with the right as well as the power to compel whoever refuses to obey the general will. Rousseau points out that the law of majority voting is itself something established by convention and presupposes unanimity on one occasion at least. To this extent Rousseau agrees with Locke about the juridical significance of the original convention or the universal consent which establishes a civil society and just as Locke calls absolute monarchy inconsistent with the very nature of the state so Rousseau uses the words republic and body politic interchangeably. To be legitimate he writes the government must be not one with the sovereign but its minister.

But Rousseau identifies government with the executive rather than primarily with the legislative as Locke does. He therefore denies that the original convention institutes government as well as the body politic itself—the Sovereign having no force other than the legislative power. In consequence Rousseau and Locke differ somewhat in their discussion of the dissolution of government as distinguished from the dissolution of society or the death of the body politic. Rousseau regards no law as irrevocable not excluding the social compact itself for if all the citizens assembled of one accord to break the compact it is impossible to doubt that it would be very legitimately broken.

According to Kant a state is the union of a number of men under juridical laws—the opposite of the state of nature in which there is no distributive justice. It is incumbent on men says Kant to accept the principle that it is necessary to leave the state of nature in which every one follows his own inclinations and to form a union of all those who cannot avoid coming into reciprocal communication and thus subject themselves in common to the external restraint of public compulsory laws.

Kant refers to this principle as the postulate of public right which obliges all men to enter into the relations of a civil state of society. The state thus seems to be both necessary and voluntary for though he says that the act by which a people is represented as constituting itself into a state is termed the *original contract* yet he also adds that this is properly only an outward mode of representing the idea by which the rightfulness of the process of organizing the constitution may be made conceivable.

AGAINST ALL THESE notions of the original contract Hegel criticizing Kant's treatment of marriage under the concept of contract says that it is equally far from the truth to ground the nature of the state on the contractual relation whether the state is supposed to be a contract of all with all or of all with the monarch and the government. Contract according to Hegel belongs to the sphere of relationships concerning private property generally. Hence the intrusion of this contractual relation into the relation between the individual and the state has been productive of the greatest confusion in both constitutional law and public life.

A contract Hegel explains springs from a person's arbitrary will an origin which marriage too has in common with contract. But the case is quite different with the state it does not lie with an individual's arbitrary will to separate himself from the state because we are already citizens of the state by birth. The rational end of man is life in the state and if there is no state there reason at once demands that one be founded. Permission to enter a state or leave it must be given by the state this then is not an individual's ar

bitrary will and therefore the state does not rest on contract for contract presupposes arbitrariness. It is false to maintain that the foundation of the state is something at the option of all its members. It is nearer the truth to say that it is absolutely necessary for every individual to be a citizen.

Hegel dismisses all questions concerning his torical origins in general or particular as no concern of the Idea of the state. In the Idea itself its antecedents are to be found. The family and civil society are the earlier—logical—moments in the development of the Idea of the State. Civil society, Hegel writes, is the [state of] difference which intervenes between the family and the state, even if its formation follows later in time than that of the state. The social contract theory applies only to what he calls civil society, by which he means the modern conception of the state as a unity which is only a partnership. Many modern constitutional lawyers, Hegel goes on, have been able to bring within their purview no theory of the state but this. In civil society each member is his own end and except by contract with others he cannot attain the whole compass of his ends and therefore these others are means to the end of the particular members.

In another place Hegel describes civil society as a system of complete interdependence for the attainment of selfish ends, wherein the livelihood, happiness and legal status of one man is interwoven with the livelihood, happiness and rights of all. In still another, he observes that only when the state is confused with civil society, only when its specific end is laid down as the security and protection of property and personal freedom, does the interest of the individuals as such become the ultimate end of their association. Whence it follows that membership in the state is something optional. But the state's relation to the individual is quite different from this. Since the state is mind objectified, it is only as one of its members that the individual himself has objectivity, genuine individuality and an ethical life.

The unity of the state, unlike that of civil society, is according to Hegel, an absolute, unmoved end in itself, in which freedom comes into its supreme right. This final end has

supreme right against the individual whose supreme duty is to be a member of the state.

IT DOES NOT SEEM to be an inevitable corollary of the social contract theory that the state be conceived as serving the private interests of individuals. The welfare of the state, Kant declares, is its own highest good. It is not to be understood merely as the individual's *well being* and *happiness* of the citizens of the state, for—as Rousseau asserts—this end may perhaps be more agreeably and more desirably attained in the state of nature. Kant and Locke both affirm a social contract, but where Kant makes the safety of the republic itself the highest law (*salus reipublicae suprema lex*), Locke makes it the security of the people (*salus populi*).

The reason why men enter into society is the preservation of their property, writes Locke. The property of the individual is secure in a state of nature, to avoid this insecurity, men unite into societies that they may have the united strength of the whole society to secure and defend their properties. When Locke says that the chief end of civil society is the preservation of property, he does not refer solely to economic goods, but to all the goods to which he thinks man has a natural right—his life, liberty and estate. Men would not quit the state of nature, he writes, were it not to preserve their lives, liberties and fortunes, and by stated rules of right and property to secure their peace and quiet.

In the light of Locke's conception of property, his position resembles Hobbes' statement of the end which men seek in forming a commonwealth, to live peaceably amongst themselves and be protected against other men and to get themselves out from that miserable condition of war, in which life is solitary, poor, nasty, brutish and short.

It seems to be in a different sense of property that Rousseau holds that the foundation of the social compact is property, and its first condition that everyone should be maintained in the peaceful possession of what belongs to him. Restricting property to economic possessions, Rousseau asks, Are not all the advantages of society for the rich and powerful? Society, he observes, provides a powerful protection for the immense possessions of the rich

and hardly leaves the poor man in quiet possession of the cottage he builds with his own hands.

This and Adam Smith's statement that civil government so far as it is instituted for the security of property is in reality instituted for the defence of the rich against the poor or of those who have some property against those who have none at all seem to anticipate the Marxist view of the state as the bulwark of property rights and an instrument of class oppression. If the protection of property and the maintenance of economic inequalities is the sole purpose of the state then the ultimate resolution of the class war in favor of a classless society will in the opinion of Marx and Engels be accompanied by what they call the withering away of the state—an atrophy from loss of function.

But even in a classless society the state would not cease to function if its end were to secure not merely the individual's wealth but his whole well being. Then however we must face another question—whether the happiness of the individual is the end of the state. Plato for example seems to answer this question in opposite ways.

In the *Protagoras* it is said that the desire for self preservation gathered men into cities. This is part of the Promethean legend of the origin of civilization. As told by Aeschylus—and in a similar account of early history by Lucretius—the story intimates that men contract to live together for protection against violence and to enjoy a better life—the fruits of civil society or civilization.

But in the *Republic* Socrates says that in constructing the ideal state the aim is not the disproportionate happiness of any one class but the greatest happiness of the whole. To the objection of Adeimantus that the citizens may be miserable in such a state, Socrates replies that we must consider whether we would look to their greatest happiness individually or whether this principle of happiness does not rather reside in the State as a whole. Later Socrates reminds Glaucon—who wonders whether the members of the guardian (or ruling) class will not be unhappy that we are fashioning the state with a view to the greatest happiness not of any particular class but of the whole

Aristotle criticizes Socrates for depriving even the guardians of happiness and for saying that the legislator ought to make the whole state happy. In his own view the whole cannot be happy unless most or all or some of its parts enjoy happiness. In this respect happiness is not like the even principle in numbers which may exist only in the whole but in neither of the parts. When Aristotle asserts that the state exists for the sake of a good life he seems to have the happiness of individuals in mind for he excludes slaves and brute animals from membership in the state on the ground that they can have no share in happiness or in a life of free choice.

But Aristotle also seems to give the state pre-eminence over the individual. Even if the end is the same for a single man and for a state he writes that of the state seems at all events something greater and more complete whether to attain or to preserve. This does not seem to him inconsistent with thinking that that form of government is best in which every man whoever he is can act best and live happily.

Nor is Hegel reluctant to embrace both horns of the dilemma. Civil society rather than the state in its perfect realization seems to be devoted to the attainment of selfish ends such as individual happiness. But Hegel also says it is perfectly true that the end of the state is the happiness of the citizens. If all is not well with them if their subjective aims are not satisfied if they do not find that the state as such is the means to their satisfaction then the footing of the state is itself insecure.

THE FOREGOING CONSIDERATIONS of the nature origin and end of political society enter into the various conceptions of the ideal state which appear in the tradition of western thought. They also have a bearing on the division of social classes in the state on the duties of the statesman or prince, and the principles of statecraft—the art or science of the ruler. Finally they have implications for the relation of states to one another and for the different historic formations of the state.

All the modern writers who make some distinction between the state of nature and the state of civil society seem to agree that independent or sovereign states in the relation to

on another are in a state of nature. Identifying the state of nature with the state of war, Hobbes remarks that though there had never been any time wherein particular men were in a condition of war one against another yet in all times kings and persons of sovereign authority are in the state and posture of gladiators which is the posture of war.

Similarly to the question Where are or ever were there any men in a state of nature? Locke replies all princes and rulers of independent governments all through the world are in a state of nature. Because bodies politic remain in a state of nature among themselves they experience according to Rousseau all the inconveniences which had obliged individuals to forsake it. With the same intent Montesquieu observes that princes who live not among themselves under civil law are not free they are governed by force they may continually force or be forced.

In Kant's opinion states viewed as nations in their external relations to one another—like lawless savages—are naturally in a non-judicial condition and he adds that this natural condition is a state of war. Similarly Hegel writes that since the sovereignty of a state is the principle of its relations to others states are to that extent in a state of nature in relation to each other.

On any of the theories concerning the origin of the state it may be asked why political society cannot be enlarged to include all mankind. If for example in Aristotle's view the state is a union of villages the village a union of families why may not a further expansion of political society be brought about by a union of states?

The question is not simply one of geographical limits or extent of population. The modern national state though normally larger than the ancient city-state remains an individual state and in the same external relationship to other states. Even the expansion of a city-state like Rome at the greatest extent of its imperial domain does not exemplify the principle of the world-state unless it is proposed that the political unification of mankind be brought about by conquest and maintained by despotism.

Though Aristotle describes the state as formed by a combination of villages he does

not propose a combination of states in form a larger community. His reason may be that the essence of the state lies in its self-sufficiency. Consequently the best limit of the population of a state is the largest number which suffices for the purposes of life and can be taken in a single view and the territory need be no larger than one which enables the population to be most entirely self-sufficing.

The moderns in contrast propose the expansion of the political community by the amalgamation of separate political units. Montesquieu for example suggests that by entering into a confederate republic a number of small states can obtain the security which none of them has by itself. If a republic be small he writes it is destroyed by a foreign force if it be large it is ruined by an internal imperfection. A confederate republic he thinks has all the internal advantages of a republican together with the external force of a monarchical government. This form of government Montesquieu continues is a convention by which several petty states agree to become members of a larger one which they intend to establish. It is a kind of assemblage of societies that constitute a new one capable of increasing by means of further associations till they arrive at such a degree of power as to be able to provide for the security of the whole body.

It is not security against external aggression, but internal peace which leads Rousseau to propose an association more extensive than anything Montesquieu seems to have in mind—a confederation of all the states of Europe. But he does not see beyond Europe to all the states of the world. He regards the great city of the world as something less than a political society with civil laws for he speaks of it as the body politic whose general will is always the law of nature.

Nor are the American Federalists Hamilton, Madison and Jay able at the end of the 18th century to envisage the unlimited extension of the principle of federal union. They content themselves with arguing for the possibility of so extensive a union as the projected United States of America against those who quoted the observations of Montesquieu on the necessity of a contracted territory for a Republican Government.

Before our own day Kant alone seems to contemplate the possibility of a world state *through federal union*. The cosmopolitical ideal he says is a universal union of states analogous to that by which a nation becomes a state. The postulate of reason which obliges men to quit the state of nature and form a civil union applies to states as well. The natural state of nations as well as of individual men, Kant writes, is a state which it is a duty to pass out of in order to enter into a legal state. But the ideal is impracticable in Kant's opinion—again because of the supposed limits of government with respect to extended territories and populations.

With the too great extension of such a union of states over vast regions any government of it and consequently the protection of its individual members must at last become impossible. Kant therefore proposes as an alternative a permanent congress of nations, but one which being a voluntary combination of states would be dissolvable at any time—a mere league or confederacy and not such a federal union as is embodied in the United States of America founded upon a political constitution and therefore indissoluble.

The further implications of Kant's proposal the alternative it replaces and Hegel's objec-

tions to either are discussed in the chapter on WAR AND PEACE. Here it seems appropriate to conclude with that vision of the world state which appears early in the tradition of the great books. It is conceived not as a world wide federal union but as a universal or unlimited community in which all men are citizens together even as they belong to one human brotherhood.

If our intellectual part is common, argues the philosophical Roman Emperor Marcus Aurelius, the reason also in respect of which we are rational beings is common; if this is so common also is the reason which commands us what to do and what not to do; if this is so there is a common law also; if this is so we are fellow citizens; if this is so we are members of some political community; if this is so the world is in a manner a state.

Centuries later Dante in the first book of his *De Monarchia* recaptures this ancient vision of the world state. Because a plurality of authorities is disorder, authority must be single and therefore Dante argues world government is necessary for the well being of the world. It must be conceived as governing mankind on the basis of what all have in common. By that common law it leads all to *vard peace*.

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To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 *HOMER Iliad* BK II [265-283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 *JAMES Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 *PLATO Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* BK II [265-283] 12d.

**BIBLE REFERENCES** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses, the King James version is cited first and the Douay indicated by a (D) follows e.g. *OLD TESTAMENT* *Nehemiah* 7 45—(D) *II Esdras* 7 46.

**SYMBOLS** The abbreviation esp calls the reader's attention to one or more especially relevant parts of a whole reference. passim signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

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 DITIONS 151 141b e 174 146d 147b / *Philosophy of History* PART IV 335a 336c 340d  
 341c 342c d  
 50 MARX *Capital* 149c 150a  
 50 MARX ENGELS *Communist Manifesto* 423c d  
 51 TOLSTOY *War and Peace* BK V 198b 203a  
 EPILOGUE II 685d 686a  
 54 FREUD *Group Psychology* 670b c 674b 676d

## 2 The general theory of the state

### 2a Definitions of the state or political community its form and purpose

- 7 PLATO *Republic* BK I II 301c 319a BK IV  
 342a 344a BK V 356c 363b 365d / *Lysis* BK I  
 678b c BK IX 754a b BK XII 795b-c  
 9 ARISTOTLE *Ethics* BK I CH 2 339b d / *Politics*  
 BK I CH I [1352 1-6] 443a CH 2 [1352-37  
 1253 39] 4 6a d BK II CH I [1260-37] CH 2  
 [1261-15] 455b d-456c CH 5 [1263-30-1264  
 10] 459a b BK III CH I [1274-32 40] 471b  
 c 1 [1276-7] CH 4 [1276-35] 473a d CH 6  
 [12 8 15 29] 475d 476a CH 9 [128 31  
 1281-2] 477d-478 CH 12 [12 82-15 18] 480c  
 BK VII C 18 532c 533a  
 11 VIRGIL *Aeneid* BK VI [47-853] 233b 234a  
 11 AUGUSTINE *City of God* BK II CH 21 161b  
 161d BK IV CH 4 190d BK VII CH 21 24  
 524a 52 c  
 20 AQUINAS *Summa Theologica* PART II Q 90  
 A 2 206b 207a Q 91 A 1 230d 231c Q 100 A  
 2 252b 253a  
 23 HOBBS *Leviathan* INTRO 47a b PART I  
 71d 73a 97c-d PART II 99a 104d 116c d  
 148b 153a  
 27 HENSPERANT *Toleration and Crystallization* SC  
 III [5 13] 108d 109c  
 30 BROWN *Advancements of Learning* 34a  
 31 SPIROZA *Ethics* PART I PROP 37 SCHOL 2  
 435b-437a  
 35 LOCKE *Toleration* 3a 16c 17a / *Civil Govern-*

*ment* CH VII SECT 87-90 44a-45a CH VI  
 SECT 95-99 46c-47c CH IX 53c 54d CH X  
 SECT 133 55b CH XI 55b 58b passim esp  
 SECT 130 56c d CH XIX SECT 217 75a SECT  
 222 75d 76c

- 38 MONTESQUIEU *Spirit of Laws* BK I 3b-c BK  
 XI 69a b  
 38 ROUSSEAU *Political Economy* 368d 369a  
 370b c 374b-c 380d 381a 381c 382b / *Social  
 Contract* BK I 391b 393b BK II 395a b  
 396d 398b BK III 417d  
 40 GIBSON *Decline and Fall* 91b 96a  
 42 KANT *Science of Right* 408c-409c 435a-436c  
 438d 439a  
 43 FEDERALIST NUMBER 29 101a NUMBER 41  
 132c NUMBER 43 141d NUMBER 51 164c d  
 46 HEGEL *Philosophy of Right* PART III par 36-  
 258 79d 81c par 260 82a 83a par 267 84b  
 par 270 84d 89c ADDITIONS 161 163 143a  
 144c / *Philosophy of History* INTRO 170c  
 178a PART I 230a-c PART IV 321a  
 54 FREUD *Civilization and Its Discontents* 780b d

### 2a(1) Comparison of the state and the social conception of the state as a living organism the body politic

- 7 PLATO *Republic* BK II IV 316a 356a BK V  
 363b 364b BK VIII 401d-416a esp 402b c /  
*Lysis* BK III 609d 670b BK VII 794b-796d  
 9 ARISTOTLE *Politics* BK I CH 5 [1254-24 41  
 447d 448a CH 13 [1260-4 0] 454c d BK III  
 CH 4 [1277-5 13] 474a BK IV CH 4 [1290-11  
 4] 489d-490a [1291-24 33] 490c BK VII  
 CH 8 [1328 21 25] 532c d  
 14 PLUTARCH *Coriolanus* 177a b / *Agricola* 1  
 495c d / *Phocion* 605a b / *Agis* 648b d  
 649b / *Aratus* 834d  
 18 AUGUSTINE *City of God* BK III CH 10 172d  
 23 HOBBS *Leviathan* INTRO 47 b PART I  
 107d 116 d 117b 122b 124b 126b d  
 148b 153a  
 25 HOBBS *Leviathan* Ess 31 504c 505d  
 27 ST AUGUSTINE *Agostinus* ACT I SC I 167  
 167] 352a 353a  
 28 HENSPERANT *Toleration and Crystallization* SC  
 32 MILTON *Areopagitica* 407b  
 35 LOCKE *Civil Government* CH XIV SECT 213  
 74a b  
 36 SWIFT *Gulliver* PART II 112 115b  
 36 STERNE *Tristram Shandy* 215b 216b  
 38 MONTESQUIEU *Spirit of Laws* BK I 61b d  
 62a  
 38 ROUSSEAU *Political Economy* 368d 369a /  
*Social Contract* BK III 407a 418a-c 419c  
 420a  
 42 KANT *Practical Reason* 547b c  
 43 FEDERALIST NUMBER 43 101b  
 46 HEGEL *Philosophy of Right* PART III par 36-  
 84d par 271 89c par 278 92c 93a ADDITIONS  
 157 142b-c 161 143 b 163 145c d / *Philoso-*  
*phy of History* I 173 174d 185a b PART I  
 222 c PART III 302d 303c PART I 321a

## 2a(2) The state as a corporate person

- 23 HOBBS *Leviathan* PART I 97c d PART II 100c 101a 101d 102c 104a b 117b 120c 122b-c 130b d 132a b
- 35 LOCKE *Civil Government* CH VIII SECT 95-99 46c-47c
- 38 RUSSEAU *Political Economy* 368d 369a / *Social Contract* BK I 392 392c 393b BK II 393a b 396d 397a BK III 406b d-409a passim esp 406b d-407a 412c 418a 419c-420a
- 42 KANT *Science of Right* 452b 454b-c
- 46 H GEL *Philosophy of Right* PART III 55a 114 c ADD TIONS 191 150a c

## 2 (3) The progressive realization of the state as the process of history the state as the divine idea as it exists on earth the nation as spirit

- 46 H GEL *Philosophy of Right* PART III par 256-259 79d 82 p r 270 84d 89c par 340-350 110b 114a esp p r 349 111d 112a ADD TIONS 19-20 119 120b 152 141c d 164 144c 145a / *Philosophy of History* INTRO 170c 178a esp 171b 176d 177a 180c 182c 203b-206a c PART I 230a 231b 257c 258d P RT I 266a 267 271c d PART III 287a 288b PART IV 327d 328a 333b-c 351d 354a 357b c

## 2b The state as a part of the whole of society

- 7 PLATO *Republic* BK V 364c 365d / *Laws* BK V 776c
- 9 ARI TOTL *Ethics* BK VIII CH 9 [ 6 8-30] 412b-c / *Politics* BK VI CH 8 [ 328<sup>b</sup> 22] 532d 533a BK VIII CH I [1337<sup>a</sup> 28 30] 542b
- 18 AUGUSTIN *City of God* BK XIX CH 7 522b-523a
- 19 AQUIN *Summa Theologiae* PART I Q 21 A 4 R 3 719d 720a
- 20 AQUIN *Summa Theologiae* PART II Q 96 A 4 AN 233 d PART II Q 1 A 10 434c-435c Q 12 A 2 443b-444b
- 35 LOCKE *Tolerant* n 2d 3 7c 16a b / *Civil Government* CH V SECT 138 40 57b 58a
- 40 GIBSON *Decline and Fall* 299b d
- 43 MILL *Liberty* 271 d 272d 273d 302d 312a 320c d
- 46 H GEL *Philosophy of Right* ADDITIONS 162 143b-144c / *Philosophy of History* INTRO 174d d 175d 176 177b 178a 182d 183 PART IV 316a d 333b-c

## 2c The source or principle of the state sovereignty the sovereignty of the prince the sovereignty of the people

- OLD TESTAMENT *Judg* 3 8 - 3 / *IS* *mu* 1 8 - (D) *I* *K* *g* 8 / *II* *Sam* 1 2 4 - (D) *II* *K* *g* 2 4
- 9 ARI TOTL *Politics* K I CH [ 75<sup>a</sup> 2 2 ] 472a-c CH 3 [ 64<sup>b</sup> ] 473b K IV H 9 [ 1 94<sup>b</sup> 34 39] 494d

H PLUTARCH *Tiberius Gracchus* 678b d15 TACITUS *Historiae* BK I 197a c20 AQUINAS *Summa Theologiae* PART I Q 90 A 3 207a = Q 96 A 6 ANS 235a d23 HOBBS *Leviathan* PART I 71d 73a 97c d P RT II 100 105 109b = 117c d 130d 149d 150b35 LOCKE *Civil Government* CH VIII SECT 95-99 46c 47c CH IX S CT 127 54a b CH X SECT 132 55a b CH XI SECT 1, 5 55d 56b SECT 141 58a b CH XII S CT 149 59b d CH XIV SECT 163 63a b CH XV SECT 171 65 II CH XVI SECT 179 66d 67a CH XVII SECT 198 70d 71a CH XIV SECT 243 81d38 MONTESQUIEU *Spirit of Laws* BK I 3b-c K II 4b 7c d BK VI 10938 ROUSSEAU *Inequality* 323d / *Social Contract* BK I 392 393b BK II 395a d 396d 397a 399b-400c BK III 406b d 409a 424a b40 GIBSON *Decline and Fall* 51c d 100d 241b41 GIBSON *Decline and Fall* 74c d42 KANT *Science of Right* 436c 437 d 439a 441d 445 -c 448b d 450a b 451c d

43 DECLARATION OF INDEPENDENCE [ 1776 ] 1a b [ 43 47 ] 2a [ 1 9-12 ] 3a b

43 CONSTITUTION OF THE US PREAMBLE 11a c AMENDMENTS IV 17d

43 F D RALSTON NUMBER 2 84d 85a NUMBER 33 108b-c NUM R 39 126b 128b NUM R 46 150b-c NUMBER 49 159c NUM R 84 252b-c

43 MILL *Liberty* 267d 269c / *Representation of Government* 344d 355b d46 H GEL *Philosophy of Right* PART I par 27, 92a b par 2, 9 93a 94d par 3 3 106c d ADDITIONS 167 145c / *Philosophy of History* PART II 272b 273a PART IV 355 d 365a 366b51 TOLSTOY *War and Peace* EPILOGUE II 680b 684 passim

## 2d The economic aspect of the state differentiations of states according to their economic systems

6 THUCYDIDES *Peopleness of the War* BK I 350d 351a 352c d7 P to *Republic* BK II 316c 319c BK 341c d K V 364c 365d / *Laws* K V 691d 697a9 ARISTOTLE *Politics* BK CH II [ 59<sup>a</sup> 23-36] 453c d BK CH I [ 6 37 126 8] 455b d CH 5 458-460 CH 6 [ 1 65<sup>a</sup> 28 18] 460 461a K 7 461d-463c K 8 [ 67<sup>b</sup> 30-36] 463c d [ 268 16-34] 464 b CH III [ 1 70 15 66] 466b c K III CH 9 [ 128 6 32] 478b-c BK V CH 9 [ 3 9<sup>b</sup> 14 3 92] 511d 512b K VI CH 4 522a 523b K 8 [ 13 1<sup>b</sup> 34] 525b-c K VII CH 8 532 534d14 P UTARH *Lives* 32a-48d / *S* *I* *n* 64b d 77a c / *Tiberius Gracchus* 671b d 681a c / *C* *G* *acchus* 681b d 689

- (2) *The general theory of the state* 2d *The economic aspect of the state & differentiation of states according to the economic systems*)
- 23 HOBBS *Leviathan* PART I 94d 95a PART II 124b 126d 156c 157a
- 35 LOCKE *Toleratio* 16a c / *Civil Government* CH V SECT 38 33b c SECT 45 34d 35a CH VI SECT 72 73 40d 41a CH VIII SECT 117 52b SECT 120 121 52d 53b CH XI SECT 138 140 57b 58a
- 36 STERNE *Tristram Shandy* 215b 216b
- 38 MONTESQUIEU *Spirit of Laws* BK IV 16a 17b BK V 19a 21d 23a 25c 27d 28a 29b 30a BK VII 44a-48a BK XIV 105a BK XV 109a b 110d 112d BK XX 147a d BK XX-XXI 151b 153d BK XXII 174a b 183b 184b
- 38 ROUSSEAU *Political Economy* 377b 385a c / *Social Contract* BK II 405c d BK III 415b 417c 421c d
- 39 SMITH *Wealth of Nations* BK III 163a 181a c esp 165a 166b 176a 181a c BK IV 182a 300d esp 182a 188a 190b 193a 195a 225d
- 40 GIBSON *Decline and Fall* 21c 22c
- 43 FEDERALIST NUMBER 11 53b 60a p 15m NLM BK 21 79b 80c NUMBER 30 101b NUMBER 35 112a 114c NUMBER 54 170a 172b p 15m
- 46 HEGEL *Philosophy of Right* PART III par 299 99c 100b
- 50 MARX *Capital* 163a c 171d 176a esp 174 175 275c 278a c passim
- 50 MARX ENGELS *Communist Manifesto* 416c d
- 54 FREUD *An Introductory Lectures* 882c 884c

2e The political structure of the state its determination by the form of government

- 7 PLATO *Republic* BK VIII 401d 416a / *Statesman* 598b 604b
- 9 ARISTOTLE *Politics* BK I CH I 445a b BK II CH I 455b d BK III CH 3 473a c CH 6 [1278b-1279a] 475d CH 13 [1283b 7] 481c CH 17 486c 487a BK IV CH 3 4 488d-491d esp CH 4 [1290b 1 1 91b 13] 489d-490d CH II 12 495b 497b BK V CH 1 [1309b 14 1310 2] 511d 512b BK VI CH 8 532c 533 / *Rhetoric* BK I CH 4 [1360 17 36] 600c d CH 8 608a c
- 15 TITLUS *Annals* BK IV 72a b
- 23 HOBBS *Leviathan* PART II 101a b 104d 105c 117b 124b 138b 151c 152a PART III 228a b
- 35 LOCKE *Charter of Magna Carta* CH VIII SECT 95-99 46c-47c CH X SECT 132-CH XI SECT 134 55a d CH XIX SECT 211 212 73d 74b
- 38 MONTESQUIEU *Spirit of Laws* BK I II 2d-4a BK XI 69d 70a
- 38 ROUSSEAU *Inequality* 359a d / *Social Contract* BK III 406b d-409a 423a-424d
- 42 KANT *Science of Right* 436b c 441b c 450 452a
- 43 MILL *Representative Government* 327b d 332d

- 46 HEGEL *Philosophy of Right* PART III par 2, 3 274 90c 92a par 276 92b ADDITIONS 166 145b c 170 145d 146a 178 147d 148a / *Philosophy of History* INTRO 173a 175c PART IV 364d 365c

2f The primacy of the state or the human person the welfare of the state and the happiness of its members

- 5 Aeschylus *Seven Against Thebes* 27a 39a c esp [1011 1084] 38b 39a c
- 5 SOPHOCLES *Antigone* 131a 142d esp [162 16] 132c d / *Ajax* [1047-1090] 152a b / *Philoctetes* 182a 195a c
- 5 EURIPIDES *Phoenician Maidens* [834 1018] 385c 387b / *Iphigenia at Aulis* 425a-439d esp [1255 1275] 436c [1368 1401] 437c d
- 6 HERODOTUS *History* BK I 6c 7a
- 6 THUCYDIDES *Peloponnesian War* BK II 397d 398c 402b-404a BK VI 520a d
- 7 PLATO *Crito* 213a 219a esp 216d 219a c / *Republic* BK I 302c 306a BK IV 342a d 350b d BK V 364c 365d BK VI 379d 38b BK VII 390b-391b 401a b / *Statesman* 608d 601b / *Laws* BK III 672d 676c BK V 692b 693a BK VI 754a b BK VII 776c 777d 785b
- 9 ARISTOTLE *Ethics* BK I CH 2 [1094b 10] 339c d BK V CH I [1295b 15 18] 371a / *Politics* BK I CH 2 [1253 19-20] 446c BK II CH 5 [1264b 16 25] 459d 460a BK III CH 4 475b 475a CH 6 475d-476c CH 12 [1282b 15 18] 480c BK VII CH 1-3 527a 530a CH 8 53b 533a CH 13 536b-537b BK VIII CH I [1337 28 30] 542b
- 12 EPICTETUS *Discourses* BK I CH 19 125b 126c BK II CH 10 148c 150a
- 12 AUGUSTINE *Mediations* BK V SECT 1 268b d SECT 6 269b d SECT 16 271c d SECT 22 272b BK VI SECT 14 274d 275a SECT 44 279c BK IX SECT 23 293c
- 14 PLUTARCH *Lives* 32a-48d esp 44d 45c / *Luma Pompeii* 51c 52b / *Solon* 71d / *Demosthenes* 699c 700a
- 18 AUGUSTINE *City of God* BK II CH 21 1 16 162d BK XIX CH 17 522b 523a CH 21 524a 525a
- 19 AQUINAS *Summa Theologica* PART I Q 60 A 5 ANS 313b 314c Q 96 A 4 512d 513b PART II Q 21 A 3 718d 719c A 4 REP 3 719d 720a
- 20 AQUINAS *Summa Theologica* PART II Q 94 A 2 206b 207a A 3 REP 3 207a c Q 92 A 1 ANS nd REP 3 4 213c 214c Q 91 A 2 A 1 221d 223a Q 96 A 3 ANS and REP 3 237b-238a A 4 ANS 233a d Q 98 A 1 ANS 239b 240c Q 100 A 2 ANS 252b 253a
- 23 HOBBS *Leviathan* PART I 92d 94a PART II 104a b 113d 115a
- 25 MONTESQUIEU *Letters* 48a 51 passim 381a 388c 486b-489b
- 26 SHAKESPEARE *Henry 5* ACT I SC II [153 21] 535d 536a

- 27 SHAKESPEARE *Troilus and Cressida* ACT I SC 11 [8-134] 109a-c / *Coriolanus* ACT C I [67 167] 352a 353a  
 30 B COV *Advancement of Learning* 71 6a passim  
 31 S I OZA *Ethics* PART IV PROP 37 SCHOL 2 435b-436a  
 32 MILTON *Samson Agonistes* [543-8 0] 338a b  
 33 LOCK *Tolerance*, 11b 15d 16d 17b / *Civil Government* CIVIL SECT 9-99 46c-47c  
 38 M TESQUIERE *Spirit of Laws* c iv 16c BK V 18d 19d BK XI 69a-c BK XII 92b-c K XIII 199c BK XXVI 221c 222a  
 38 ROUSSEAU *Political Economy* 368d 369a 372a b 37 a 375b 376a b / *Social Contract* BK 2, 391d 392b-393b 393d 394d BK II 396b-399a BK III 421c-423a  
 42 HUNT *Pier Reason* 114b-d / *Fund Prin Metia* h y c f M als 272d 273b / *Science of Rights* 438d-439b  
 43 DECLARATION OF INDEPENDENCE [1 12] 1a b  
 43 CONSTITUTION OF THE U.S. PREAMBLE 11a AMENDMENTS 1-K 17a-d  
 43 FEDERALIST NOS BER 43 143b-c NUMBER 45 147c 148a  
 43 MILL *Liberty* 267b-d 274a 293b-323a esp 297a, 322d 323a-c / *Representative Government* 337b 338b-c 392b-396d / *Utilitarianism* 453a-454a 460a-461c 464d-476a-c passim  
 46 H GEL *Philosophy of Rights* P RT II par 18, 64b-d par 87 6 -c par 36 76a-c par 38 80c-d par 260-61 82a-83d par 2, 84d 89c par 88-289 97a d pa 94 98b-d par 3 3 107 par 328 108b-c par 337 109d 110a ADDITIONS 47 124a b 6-8 130 136b 127 137b 143 139d 140a 145 140b 154 56 142 B 155 142d 62 143b-144c 177 147d 189 149d / *Philosophy of History* INTRO 164b 166b 170c 172b 192 193a PART 271c-d 276a PART III 289b-d 298c 299a A TIV 320c 321a 365b-c 366c 367a 367d 368a  
 46 MARX ENGELS *Communist Manifesto* 429c  
 51 T TROY *War and Peace* c vi, 238c 243d 260a 262a BK XI 505 511b 513d 521 esp 513d 515a 527b-532 esp 527b-528b BK XI 537b-538a K XI 577b-c ELOGU 1 670d-671c  
 54 FREUD *War and Death* 757b-c / *Civilization and Its Discontents* 799b-d  
 28 Church and state the relation of the city of God to the city of man  
 O D T STAMENT *Judg* 8.2 23 / *IS m* 1 8 1 18-9.24 2 2 4 9 13-(D) 1 *King* 8 1 8-9.24 4 7 9 3 / *II Ch n* 19 11-(D) *II P* 1 *f men* 19 / *P lms* 48 -8 8- 17 7 -(D) *Psalms* 47 -9 7 8 86 6 / *Isa h* 43 15-(D) *I* 43 5 / *D sel* -14 4 17 53 -(D) *D* 1 44 4 4 9  
 APOCALYPH *Revelation of Ezechiel* 143-(D) OT  
 ECCLES 14 / *Wisdom of Solomon* 6 1 4-  
 (D) OT *Book of Wisdom* 6.2-5 / *II Mac* 6.2-7 0-(D) OT *II Maccabees* 7 30  
 NEW TESTAMENT *Matthew* 17.24 - 17.25 22  
 -(D) *Mark* 12.23 26 - 15 - / *Mark* 12.23 17 / *Luke* 12.21 6 / *John* 15 33 - / *Acts* 5.21 -9 / *Romans* 13 1-8 / *I Corinthians* 13.24 5 / *Ephesians* - 19 / *I Timothy* 4 - 1 3 / *II Timothy* 3 1 / *II Peter* 1 14 / *Peter* - 15 17  
 7 PLATO *Laws* BK X 757d 761b 769d 771b  
 9 ARISTOTLE *Ethics* BK VIII CH II [1160\*19- 9] 412b-c / *Politics* BK II CH 14 [1 55\* 1] 483a b [1255\* 0-3] 484a BK V CH II [1314\*36-1315\*4] 517d BK VI CH - [1 1 35\* 2] 523a CH b [13-2\*19- 9] 526c BK VII CH 8 [13 52\* 2] 532d 533a CH 9 [13 9\*0-34] 533d CH 10 [1330\*0-14] 534c CH 11 [1331 19-5] 535d [1 11\*4 1] 536a  
 12 E CRITUS *Discourses* BK I CH 30 138a c BK II CH 5 143d 144a BK IV CH 3 224b-d  
 13 VIRGIL *Aeneid* BK VII [1 3 194] 558b-559a [8 9-84] 1376a b  
 14 PLOTIN *Enneads* *Sum* ut 52d 53a 5 b / *Thermistocles* 92a-c / *Cornelius* 114c 116a / *Fabius* 142d 143a / *Marcellus* 247c 248b / *Cleomenes* 659d 660a  
 15 TACITUS *Annals* BK III 59d 60c  
 18 AUGUSTINE *City of God* BK III par 12 17a b / *City of God* BK I PREF-CH 6 129a 132d BK IV CH 31 34 206c 207a c BK V CH 12 16 220d 221b CH 25 228b-c BK VI CH 1 322b-d 323a BK VII 1 1 397b-d 507a c esp BK VI CH 1-5 397b-d-400 BK VII CH 1-3 449a 451c BK VI CH 1- 472b-d-473d BK VII CH 5 513d 514b CH 11 516d 517b c 4 520a d CH 17 522b-523a CH 19- 6 523b 529a  
 20 AQUINAS *Summa Theologiae* PART II Q 96 A 4 23a-d Q 100 A 4NS 252b-253a PART II II Q 10 AA 10-II 434c-436b Q II A 3 440b-441a Q 2 A 2 443b-444b  
 21 D N T *Divine Comedy* H LL II [0- 7] 2d XXXI [1-69] 51b-52a PURGATORY VI [5 3] 61b-62 XIII [8-96] 72d c [5 129] 77b-78a XXX [100]-XXXIII [78] 103c 105a A DISK V [1 11] 113 114d  
 23 M HAVELL *Prin* CH c 16d 17d  
 23 HO *Let at n* PART 80d 81 82b-83 83d 84c ART 1 111b 112 151a 155d 156b 163c d M T 1 165a 167 171c 172a 177c 180a 187 188a 191b 193c d 198a 246a M ART IV 248a 249b 251c 252d 266a-c 273c 274a 275 278d  
 25 MONTAIGN *Essays* 305b-d  
 26 SHAKESPEARE *1st Henry VI* CT SC 1 5b 6 ACT I 5 [1 45] 14b 15d / *A John* 376-405a M P A T c 1386 389d ACT 5 [4] 399b- 1 400-401d / *2d Henry VI* A T c [87 5] 470 b A V C I [-96] 487b-488b C II [ 1 489d-490 / *Henry V* CT 1



(2) *The general theory of the state 2g Church and state the relation of the city of God to the city of man*

27 SHAKESPEARE *Henry VIII* 549a 585a esp  
ACT III SC II 568b 573d

30 BACON *Advancement of Learning* 27c

32 MILTON *New Forces of Conscience* 68a b /  
*Lord Gen Cromwell* 69a b / *Paradise Lost*  
BK XII [485 551] 3 9b 331a / *Areopagitica*  
386b 388a

35 LOCKE *Toleration* 2d 21c esp 2d 3a 7c  
13a b 16b 20d 21c

38 MONTESQUIEU *Spirit of Laws* BK II 7c 8c  
BK V 27d BK XII 85c 86a BK XVIII 134c d  
BK XIX 144c 145a BK XXIII 196c 197c BK  
XXIV XXV 200a 214a c BK XXVI 214b d  
215a 218a 219d BK XXX 284d 285c BK  
XXVI 298b 308c

38 ROUSSEAU *Inequality* 327a c 358d 359a /  
*Social Contract* BK II 401c-402a BK IV 435a  
439c

39 SMITH *Wealth of Nations* BK I 56b 57a BK  
IV 232b BK V 343b d 356d 357c

40 GIBSON *Decline and Fall* 13b d 197a b  
229c 230a 233d 289b d 294a 299b 304d  
passim esp 299b d 303c 328c 330a c 349c  
351d 382a 383b 390c 393d passim esp  
392c 443d-446b esp 444c 445b 451d  
453 457b d-460b passim 582c 611d 612a  
623d 624b 631d 632a 642c 643a 863c  
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41 GIBSON *Decline and Fall* 147d 148c 195a  
199c 02d 204b 207a c p 205d 206b 212d  
213d 214c 215c 252c d 352b 353b 360b  
361b 381d 383c 417b-418d 557c 562b esp  
560d 561c 567c 569d 582c 589d esp 586a-c  
588b 589d

42 KANT *Science of Right* 442c d 444a c

43 ARTICLES OF CONFEDERATION III 5b

43 CONSTITUTION OF THE US ARTICLE VI [591  
599] 16d AMENDMENTS I 17a

43 FED. R. LIST NO. BER 52 165c NUMBER 57  
177b

43 MILL *Liberty* 279a d 290 291a / *Representa-*  
*tive Government* 341a-c 437d-438b

44 HOWELL *Johnson* 189c d 251c 314- 315b  
445b-c

46 HECHEL *Philosophy of Right* PART III par 2, d  
84d 89c ADDITIONS 16 143b 144c / *Philoso-*  
*phy of History* I TWO 175c 177b 192c d  
205d 206 c PART I 216b-217c 245d 247b  
P. T. III 308b-c 309d 310c 311b d PART  
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- 43 MILL *Liberty* 270a b / *Representative Government* 385a d 392b 399d *passim* esp 398a d
- 44 BOSWELL *Johnson* 124d 126a 127b c 140b 141a 211b c 247c d 299a b 383b 406b c
- 46 HEGEL *Philosophy of Right* PART III par 201-206 68a 69b par 255 79d par 288 97a b par 295 98d 99a par 303 101c 102a par 305 102b par 308 102c 103a par 326 107d 108a ADDITIONS 127 130 137b d 151 141b c 189 149d / *Philosophy of History* INTRO 181d 182a 193b c PART I 222a 223c 237b-c 250a c PART II 275b 276a PART III 287d 288b 294c 297b PART IV 335a 336c 356c 357a
- 49 DARWIN *Descent of Man* 324a 578b c
- 50 MARY *Capital* 95d 96b [in 2] 164a 180d esp 165a b 165d 166a 171a c 173b 176b d 178c 179c 218c 219d 239d 240c 303d 317c 321b esp 317c 319b 319d 321b 355a 364a *passim* esp 364a 366a b 368c 369a
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- 51 TOLSTOY *War and Peace* BK I 1a 11b BK V 204a 206c BK VII 278c 281a 281a BK IX 347d 350d pa m 384c 388a c BK X 403a 405a BK XI 503a 505a EPILOGUE II 685d 686a
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- 5d'(1) The opposition of social groups the treatment of national racial and religious minorities
- 7 PLATO *Law* BK I 641 642b BK II 678d 679a BK VIII 42c d BK XI 774d 775a BK XII 790a d
- 9 ARISTOTLE *Politics* BK III CH 5 [127 b 34 12 84] 475a b BK V CH 3 [1303 25 4] 504d 505a BK V CH 1 [1330 5 33] 534d
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- 6 THUCYDIDES *Peloponnesian War* BK II 396c  
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- 7 PLATO *Republic* BK II IV 318a 330a /  
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- 9 ARISTOTLE *Politics* BK I CH I [ 6 28-36]  
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- 14 PLUTARCH *Lycurgus* 34d 35d 45 46a
- 20 AQUINAS *Summa Theologiae* ART II =  
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- 37 FREDERICK *Tom Jones* 268c 269b
- 38 ROUSS *Inequality* 323a 325b / *Social  
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- 42 KANT *Pure Reason* 114b d / *Science of Right*  
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- 6b the social and economic arrangements of the ideal state
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- 7 PLATO *Republic* BK I 316 319 BK V  
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9 ARISTOTLE *Politics* BK II CH 1-8 455b d 465b BK VII CH 8 12 532c 536b

14 PLUTARCH *Lycurgus* 36a-47a / *Numa Pompilius* 58a

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50 MARX *Capital* 292d 377c 378d

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7 PLATO *Republic* BK II 316c 319a esp 318c 319a BK III IV 339b 344a esp 341c 344a

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9 ARISTOTLE *Politics* BK I CH 7 [1267 18 36] 462d-463a BK VII CH 4 [1325-33 1326 4]

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14 PLUTARCH *Lycurgus* 36a 37b 47d / *Lycurgus Numa* 62b-c / *Cato Major* 180b-d / *Alibi Marcus Cato* 291b 292b / *Agamemnon* 649b-c

15 TITUS LIVY *Annals* BK II 31a b BK II 57b-58d

16 AUGUSTINE *City of God* BK I CH 3 33 147b 149a

21 DANTE *Divine Comedy* ELL. V 1 [1-60] 9c 10 XVI [64-8] 23a b FLAGRATORY XX [34 0] 83 84a

23 HOBBS *Leviathan* PART IV 267c 268b

36 SWIFT *Gulliver* PART II 73b 76b PART IV 154b 155b

51 MONTAIGNE *Spinoza of La* BK I 19a 21d 23a 25c BK VII 44a-45a BK XIII 96c BK XX 146b-147d BK XXI 153 d 154b

38 ROUSSEAU *Inequality* 325d 327c 328a 365c 366b / *Political Economy* 375b d 377b-383a c / *Social Contract* BK II 405c d BK III 411a b 415b-417c 421c d

39 SMITH *Wealth of Nations* BK I 27b 31b 33c 35c

40 GIBSON *Decline and Fall* 22b 23b 88d 89d 456d-457a 498a 501d 642a-c

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44 BOSWELL *Johnson* 210d 212b

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49 DARWIN *Descent of Man* 324a d

50 MARX *Capital* 292d 319b 321b

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7 PLATO *Republic* BK II III 320c 339a BK IV 344b 345a BK VII 388a-401d BK X 427c 441a esp 432d-434c / *Statesman* 604c 608d / *Lysis* BK II 653a 663d BK III 675c 676b

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9 ARISTOTLE *Politics* BK VIII 542a 548a c

14 PLUTARCH *Lycurgus* 43b-44b

18 AUGUSTINE *City of God* BK I CH 31 33 147d 149a BK II CH 8 14 153d 157c BK IV CH 26-27 202a 203c / *Christian Doctrine* BK I CH 25 649b d

23 HOBBS *Leviathan* PART II 164c

30 BACON *New Atlantis* 199a 214d esp 210d 210c

35 HUME *Human Understanding* SECT I DIV 5 453a b

36 SWIFT *Gulliver* PART III 104b-107a

38 MONTESQUIEU *Spirit of Laws* BK IV 17b-18d BK XXIII 191a c

38 ROUSSEAU *Inequality* 365d 366b

39 SMITH *Wealth of Nations* BK I 5d 6a BK V 308 309a c 337d 339c 347b d

40 GIBSON *Decline and Fall* 23b-24a c 28d 158d 159a 633b-c

41 GIBSON *Decline and Fall* 298a 300c 326b 328a c esp 327d 328a c 451d 527d 528a c

42 HANT *First Principles of Metaphysics* 232c / *Judgement* 586a 587a

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46 HEGEL *Philosophy of History* INTRODUCTION 186a PART I 217c 218a PART II 277d 278a PART V 346c 348a

54 FREUD *Civilization and Its Discontents* 778a 779d

## 7c The state's concern with religion and morality: the cultivation of the virtues

6 HERODOTUS *History* BK VII 232d 233d BK IX 294a-c

- 6 THUCYDIDES *Peloponnesian War* BK I 370a c BK I 396b d 399a
- 7 PLATO *Apology* 206a 207b / *Gorgias* 287c 290b / *Republic* BK II IV 316a 356a / *Timaeus* 442b-443b / *Cratylus* 485b c / *Statesman* 605d 608d / *Laws* BK III 669b 670c BK IV 682c-683d BK V 687d 688a BK VIII 731d 732c 735b-738c BK X 757d 771b BK XI 794a 799a c / *Seventh Letter* 801b 806b-c
- 9 ARISTOTLE *Ethics* BK V CH - [1130<sup>b</sup>18 29] 378a B BK V CH 9 [1179 33-1180 13] 434a d / *Politics* I CH [1263<sup>b</sup>36-1264 1] 459a [1264<sup>a</sup>26-32] 459c CH 7 [1266<sup>b</sup>27-1267 17] 462b-d [267 36-39] 463b BK V CH 9 [1310 13 36] 512b-c BK VII CH 1-3 527a 530a CH 8 532c 533a BK VII CH 13-BK VII CH 7 536b 548a c
- 14 PLUTARCH *Lycurgus* 32a-48d esp 44d-45 / *Numa Pompilius* 49a 61d esp 52d 53a / *Lycurgus* 61b d 64a / *Solon* 64b d 77 c / *Mucellus* 247c 248b
- 15 TITUS *Annals* BK III 60d 61a
- 18 AUGUSTINE *City of God* BK I V 129a 230a c BK XIX CH -3 24 525c 528c
- 20 AQUINAS *Summa Theologiae* PART I II Q 92 AA I 2 213 215a c Q 95 A I 226 227c Q 96 A 2 3 231c 233a
- 21 DANTE *Divine Comedy* PURGATORY VI [58-151] 61b-62c XVI [5 129] 77b-78 PARADISE XV [97] XVI [154] 129b 132a
- 23 HOBBES *Leviathan* PART II 154b 155c
- 30 BACON *Advancement of Learning* 74b-c
- 35 LOCK *Tolerant* 15d / *Human Understanding* d BK I CH I SECT III 105b
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- 38 MONTESQUIEU *Spirit of Laws* XXII d XI I 9b 11d BK IV-V 13b d 19d BK V 21b 23b BK VI 40a b BK XIX 135d 142a BK XVI 196c 197c BK XXIV 200a 208a c
- 38 ROUSSEAU *Inequality* 327a 328a / *Political Economy* 372a 377b / *Social Contract* K V 435 439c
- 39 SMITH *Wealth of Nations* BK V 337d 338c 346c 347d
- 40 GIBSON *Dilemma and Fall* 100 101b 291d 292d 601b d
- 42 KANT *Judgement* 509d 510a
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- 43 MILL *Liberty* 302d 323a c p ssum / *Representative Government* 332d 341d p ssum
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- 7d The educational task of the state the trained intelligence of the citizens
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- 5 ARISTOPHANES *Frogs* [1008-1098] 576b 577
- 6 THUCYDIDES *Peloponnesian War* BK I 370a c BK II 397b-c
- 7 PLATO *Protagoras* 43a-47c / *Crito* 213 219a c / *Republic* BK II V 316a 356a BK V 366a c BK VI 380d 381a BK VI VII 383b 401d / *Statesman* 607b 608d / *Laws* BK I II 610a 663d esp BK I 644b 645 BK III 675c 676b BK VII 713c 731d BK VIII 732b 735a
- 9 ARISTOTLE *Ethics* BK I CH [1094 28-31] 339c d CH [1099<sup>b</sup>29-3 ] 345b BK V CH 2 [1130<sup>b</sup>18 29] 378a B BK V CH 9 434a c esp [1179 33-1180 3] 434a d / *Politics* BK II CH 5 [1263<sup>b</sup>36-1 64 1] 459a [1264<sup>a</sup>26-32] 459 CH 6 [1264<sup>b</sup>37 39] 460b CH 7 [1266<sup>b</sup>27-35] 462b c BK I CH 4 [1 77 14 29] 474a 475a K IV CH 9 [294<sup>b</sup>19-24] 494c BK V CH 9 [1310 12-35] 512b-c BK VI CH 13 BK VIII CH 7 536b 548a c / *Athenian Constitution* CH 42 572b d
- 14 PLUTARCH *Lycurgus* 33c 34a 39a 45b / *Lycurgus* s *Numa* 61b d 64a c / *Solon* 64b d 77a p ssum / *Age of Solon* 480b d 481a
- 21 DANTE *Divine Comedy* PARADISE VIII [112 148] 118b c
- 23 HOBBS *Leviathan* PART II 114b 115a 150 151a 153a 155c P RT V 273 c
- 24 RABELAIS *Gargantua and Pantagruel* BK I 66a BK II 81d 83b
- 25 MONTAIGNE *Essays* 60c 62
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- 32 MILTON *Areopagitica* 384b 385b 398a B
- 35 HUME *Human Understanding* s CT I DIV 5 453a b
- 36 SWIFT *Gull* PART II 76b-80b
- 38 MONTQUY *Spirit of Laws* K IV 13b d 18d
- 38 ROUSSEAU *Inequality* 365d 366b / *Political Economy* 372 377b / *Social Contract* BK II 402b 403a
- 39 SMITH *Wealth of Nations* BK V 303b 305c 337d 338c 340c 343d 347 d
- 40 GIBSON *Dilemma and Fall* 6b 669 670b
- 41 GIBSON *Dilemma and Fall* 347
- 42 KANT *Judgement* 586a 587a
- 43 FEYERABACH NUMBERS 27 95 d NUMBER 84 253d 254b
- 43 MILL *Liberty* 283a 317d 323a c / *Representative Government* 330a b 332d 341d p ssum P 339a 340 499a 350 381b 387d p ssum 418b d 420b d 424b c
- 46 HEGEL *Philosophy of Right* PART I P 87 65a P 239 76d par 3 5 104c ADDITION 98 133a 147 140c 66 145b-c 83 148d 149a / *Philosophy of History* P RT 271d 272d

(7) Factors affecting the quality of states 7d  
The educational task of the state the  
trained intelligence of the citizens)

49 DARWIN *Descent of Man* 328c d

50 MARX *Capital* 237d 240d

54 FREUD *Sexual Enlightenment of Children* 122c

8 The offices of state the statesman king or  
prince

8a The duties of public office and the respon-  
sibilities of office holders the relation  
of the statesman or king to the people he  
represents or rules

OLD TESTAMENT *Genesis* 41-44 / *Deuteronomy*  
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8 11-18 / *I Kings* 3 7-9—(D) *III Kings* 3 7-9  
/ *II Chronicles* 17 12—(D) *II Paralipomenon*  
17 12 / *Psalms* 72—(D) *Psalms* 71 /  
*Proverbs* 16 11 15 25 28 15 29 24 12 14  
/ *Isaiah* 21 20-22—(D) *Isaiah* 22 20-22 /  
*Jeremiah* 23 3-6—(D) *Jeremiah* 23 3-6

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5 AESCHYLUS *Suppliant Maidens* [354-523] 5b-  
7c / *Seven Against Thebes* [1 77] 27a 28a

5 SOPHOCLES *Oedipus the King* [572-630]  
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5 EURIPIDES *Suppliants* [286-358] 260d 261c

5 ARISTOPHANES *Knight* 470a-487a c

6 THUCYDIDES *Peloponnesian War* BK II  
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7 PLATO *Republic* BK I 301b-306b BK III  
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9 ARISTOTLE *Politics* BK I CH II [1259<sup>a</sup> 23 36]  
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14 PLUTARCH *Numa Pompilius* 51c 52c / *Marcus  
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15 TACITUS *Annals* BK II 57b-58d 61c 62a  
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15 AUGUSTINE *City of God* BK XIX CH 6 514b-  
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11 DANTON *Diary Comedy* PLUTARCH X 7  
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23 MACIUS VALERIUS *Prince* CH III XIX 21b 30a

23 HOBBS *Leviathan* PART II 153a 159c

25 MONTAIGNE *Essays* 7a d 24a 25c 315c d  
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26 SHAKESPEARE *2nd Henry VI* ACT I SC I  
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27 SHAKESPEARE *King Lear* ACT III SC IV [6-  
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29 CERVANTES *Don Quixote* PART II 340b-  
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30 BACON *Advancement of Learning* 74d 75a /  
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32 MILTON *Sr Henry Lane* 69b / *Paradise Lost*  
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22 75d 76c

36 SWIFT *Gulliver* PART I 157b-158a

38 MONTESQUIEU *Spirit of Laws* BK VI 40 b  
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38 ROUSSEAU *Political Economy* 367a 368.  
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39 SMITH *Wealth of Nations* BK IV 194b-c  
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40 GIBBON *Decline and Fall* 26d 27a 30  
243a 245b 288b-289a 338d 339c 342a-c  
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41 GIBBON *Decline and Fall* 95a-c 102d 103a  
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42 HANT *Science of Right* 434a 444c-445a

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70 212c 214a NUMBER 71 214d 215a

43 MILL *Liberty* 298d 299a 302b-c / *Representa-  
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44 BOSWELL *Johns* 86a

46 HE L *Philosophy of Right* PART III par 295  
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51 TOLSTOY *War and Peace* BK I 9c 10d BK I  
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8b The qualities or traits necessary for the  
good statesman or king

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1 13 16 18 17 14 20 / *I Samuel* 15 10-35-  
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- (D) *II Kings* 23 3 / *I Kings* 3 5 28 4 9 34—  
 (D) *III Kings* 3 5 28 4—9-34 / *II Ch nicles*  
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 OT *Book of W idom* 1 1 6 9 / *Ecl last cut*  
 10 1 3 41 17-18—(D) OT *Ecl s sn* 10  
 1 3 41:22 22 / *I Maccab* 1 14—(D) OT  
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 5 A SCHVLVS *Pertians* [623-680] 21c 22a  
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 6 S HOCL 3 *Ant g ne* [16 o] 132c d [633  
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 5 ARU TOPHANES *Knights* 470a-487a c esp [147-  
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 7 PLATO *Gorgias* 285a 292a / *Republic* BK II  
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 9 ARISTOTLE *Eth s* BK VI CH 5 [1140<sup>b</sup> 4-11]  
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 7 127 18] 466d-467b CH II [1273<sup>a</sup> 21-3 o]  
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 12 AUL LIO *M d sat o s* BK I 253a 256d K  
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 15 TACITUS *H tories* K I 215c  
 18 AU U TII *Cry f G d* K XIV CH 28  
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 24 R LAIS *G gantu and Pantagruel* BK III  
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 25 MONTAIGN *Essays* 381a 388c 436c-438b  
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 26 SH ASPEARE *Richa d II* ACT II SC I 327  
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 27 SH KES ARE *Measu e for Measure* ACT I  
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 29 C RVANTES *Don Q i rot* PART II 331a 336a  
 30 BACON *Ad a cment of Learri g* 1b 2c 4c  
 7 20d 25c 94b 95b  
 32 MILTON *Lord Gen Cromucll* 69a b / *Sr*  
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 36 SWIFT *Gull cer* PART I 28b 29b PART III  
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 38 MONT SQUIER *Spiri of Laws* BK V 22 b  
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 41 G BON *Decl e and Fall* 57d 68b 103d  
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 42 KANT *Judgement* 504 b  
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 43 FED LIST NUM R 2 32b 33b NUM BER  
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 43 MI I *ep exatit e* 336c 338c  
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 44 RO WELL Johnson 178a b 374a-c  
 46 HE EL *Philos phy of h ght* ■ RT II p 92  
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 51 T TOY *War and Pe ce* ■ I 9c 10d BK V  
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8c The education or training of the statesman or prince

7 PLATO *Republic* BK II III 320c-341d BK V 366a-c BK VI VII 383b-401d / *Timaeus* 412c d / *Laus* BK III 672d 676b BK XII 794a 799a c / *Seventh Letter* 801c 802d

9 ARISTOTLE *Ethics* BK X CH 9 [1180<sup>b</sup>29 1181<sup>a</sup>25] 435d 436a c / *Politics* BK III CH 4 [12 / 14 33] 474a-475a CH 18 [1288 31 43] 487a c BK VII CH 14 [1332<sup>b</sup>13 1333 17] 537b-538a BK VIII CH 4 [1338<sup>b</sup>25 38] 544a b

12 AURELIUS *Mediations* BK I 253a 256d

14 PLUTARCH *Peticles* 222d 123c / *Alcibiades* 156c 158b / *Agis* 1480b d-481a / *Alexander* 542d 544a / *Cato the Younger* 625b 626a / *Demetrius* 781b d 788b

15 TACITUS *Annals* BK II 34c d BK XII 111d BK XIII 125d 126a BK XIV 153d 155a / *Historia* BK IV 267c

23 MACHIAVELLI *Prince* 1a 37d esp CH XIV XIX 21b 30a

23 HOBBS *Leviathan* INTRO 47b-d PART II 164a c

24 RABELAIS *Gargantua and Pantagruel* BK I 18b 19d 26d 30c

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26 SHAKESPEARE *Henry IV* ACT I SC II [119-240] 436c-437d ACT III SC II [93 161] 453d-454c / *Henry V* ACT I SC I [22-68] 533b-c

29 CERVANTES *Don Quixote* PART II 332c 336a 362a c

30 B CON *An element of Learning* 4c 7c 23a b

36 SWIFT *Gulliver* PART II 73a 76b

38 ROUSSEAU *Social Contract* BK III 414b

40 GIBSON *Decline and Fall* 32a 62a-c 86c 245b c 260a b 275c 276a 281a c 430a 534a-c 669b

41 GIBSON *Decline and Fall* 15b = 508c 509d

43 FEDERALIST NO 27 95c d NL BER 35 114b = NL BER 53 168b 169d pas m NL BER 96 175d 176d NL BER 62 190b-d

43 MILL *Representative Government* 356b 359a 407d-408d 415a 417 pas m

46 HE EL *Philosophy of History* PART III p 296 99a b ADDITION 169 145d 171 146b c / *Philosophy of History* INTRO 155b-d PART I 212d 213d 243b-c PART II 281d PART V 368b

8d Statecraft: the art or science of governing political prudence

5 ARISTOTLE *Politics* [6 3-68] 21c 22a [52 90] 24b d

5 ARISTOTLE *Politics* 4 0a-487a c esp [47 222] 471d 472 / *Politics* 583a 599 esp [496-500] 589 590d *Politics* 615a 628d esp [3 24] 617 d

7 PLATO *Futurum* 75c 76b / *Meno* 188b 190a c / *Republic* 383b-401d /

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11 ARISTOTLE *Ethics* BK I CH I 2 339a d BK VI CH 7 [141 0-33] 390a b CH 8 [141<sup>a</sup>21 28] 390d / *Politics* BK II CH 12 4 0b-471d BK III CH 11 [1281 39 1282 41] 479b-480b BK IV CH 1 487a-488b

12 AURELIUS *Mediations* BK I 254b =

14 PLUTARCH *Romulus Theseus* 30c d / *Pericles* 80d 82a / *Poplicola Solon* 87b d / *Camillus* 102b = / *Peacocks* 121a 141a c esp 137b 138b / *Fabius* 143b d 145d 146a / *Alcibiades* 155b d 174d passim esp 167c 168a / *Aristides* 262b d 276a = esp 263d 267a 273d 275c / *Agis* 482a c / *Phocion* 604b d 605d / *Cato the Younger* 625b 627b / *Agrippa* 648b d 649b / *Caesar and Tiberius* 681a c

15 TACITUS *Annals* BK IV 72a b

18 AUGUSTINE *City of God* BK V CH 12 217d 218a

20 AQUINAS *Summa Theologica* PART II Q104 A 4 ANS 306d 307c

23 MACHIAVELLI *Prince* 1a 37d

23 HOBBS *Leviathan* PART II 112d 128d 129b 158c d 164c

26 SHAKESPEARE *Richard II* ACT III SC IV [9-66] 340c d

30 MACON *Advancement of Learning* 4c 7c 81d 95b passim

35 LOCKE *Tolerant* on 9b

36 SWIFT *Gulliver* PART II 78a b PART II 112a 115b PART IV 157a 158a

38 MONTESQUIEU *Spic of Laws* BK VI 40a 1 43c d BK VII 93c 95b BK XIV 137c 139c

38 ROUSSEAU *Social Contract* BK III 413a

40 GIBSON *Decline and Fall* 48a 142c 144a 155a d 157c 284a-c 288b 289a

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43 MILL *Representative Government* 331b c 356b 359a

46 HEGEL *Philosophy of History* PART II 275d 276a = PART IV 351d 362a

51 TOLTOY *War and Peace* BK II 65d 66d = 238 243d 260a 262a

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5 FLAVIUS *Suppliants* [723-730] 261d

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- 7 PLATO *Republic* bk ii 319a c bk v 367b 368c / *Statesman* 605a d
- 9 ARISTOTLE *Ethics* bk x ch 7 [1177<sup>b2</sup> 3] 432a c / *Politics* bk ii ch ii [1271 38 4] 467c bk iv ch 4 [1291<sup>a</sup> 7-33] 490b c k v ch 9 [309 33<sup>b8</sup>] 511c d bk vii ch [1324 21] 1325 15] 528b-529a ch 5 [1326<sup>b</sup> 38] 1327<sup>a</sup> 531a ch 9 [329 3 59] 533b d ch 14 [1333 29-33] 11] 538 d
- 11 PLUTARCH *Themistocle* 88a 102a c / *Persie* 130d 141a b / *Fabius* 141a 154a / *Aemilius Paulus* 214d / *Caius Marius* 332b d 354a c / *Cimon* 89b d 399d / *Lucullus* 400a-421 c / *Pompey* 499a 538a m / *Alexander* 540b d 576d / *Caesar* 577a 604d / *Phocion* 607b d / *Timon* 748a 779d
- 23 MACHIAVELLI *Princ* ch iii viii 3 14c passim ch x 16a d ch xii xiv 17d 22a ch xx 30a 31c ch xxv 37a c
- 23 HOBBS *Leviathan* PART II 159a-c
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- 28 MONTESQUIEU *Spirits of Laws* bk v 31d 32b bk x 65d 68a bk xi 74b d bk xi 100d 101a
- III RUSSELL *Political Economy* 380a d
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- 40 GIBSON *Decline and Fall* 4b 5c 42b d-43b 47c d 50b 56a 63a 64b 86a d 118d 119a 158b 171b esp 170c d 245d 248d 284a-c 365b 378d esp 373c 374a 563 567a 639a
- 41 GIBSON *Decline and Fall* 126d 131d esp 128a 311d 312a 321b 323 509 d
- 42 KANT *Science of Rights* 453d 454 / *Judgments* 504a b
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- 43 FEDERALIST NUMBER 20 76b d NUM 29 99b 100a NUM 74 221 d
- 46 HEGEL *Philosophy of History* PART II 281d 282d PART IV 359a b 366b
- 51 TILLOTSON *War and Peace* bk i 81 93d bk iii 1 8d 144c 146d 153d 155a k v 209a-c k ix 342a 355 bk x 389 391c 404a ii 430b-432c 444-450a bk x 533a 537b esp 535d 537b bk x ii 563a 575a bk xiv 610d 611a bk xv 626d 630a

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- 4 HENRY III d bk ii [78 393] 12d 13d
- 5 EURIPIDES *Sippus* i [399-425] 261d 262a / *Orestes* [852-956] 402d-403d
- 5 ARISTOTLE *Poetics* [60-656] 532d 533c
- 6 HERODOTUS *History* bk v 180c d bk vii 264a c
- 6 THUCYDIDES *Peloponnesian War* bk i 384c 386c bk ii 395d 399a 402b-404a k i 425 d 427a-c bk v 511b 516 517d 520d bk vii 559d 560b
- 7 PLATO *Phaedrus* 129d 130c / *Gorgias* 288b-

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- 9 ARISTOTLE *Ethics* bk x ch 9 [1180<sup>b</sup> 8 1181 18] 435d 436a / *Politics* bk iv ch 4 [1292 4-38] 491b d passim bk v ch 5 [1305<sup>a</sup> 7-15] 505d / *Rhetoric* bk i ch i [1354<sup>b</sup> 23-34] 593d 594a ch 3 8 598b 608c bk ii ch i [377<sup>b</sup> 14-1378 19] 622b d 623a bk ii ch 16 [1417<sup>b</sup> 13 17] 671d ch 17 [1417<sup>b</sup> 35 1418<sup>b</sup> 23] 672b 673b
- 14 PLUTARCH *Pericles* 129b 130b / *Alexander* 159a ii / *Phocion* 605a d / *Cato the Younger* 621c / *Demosthenes* 691b d 704a / *Cicero* 704a 723d / *Demosthenes Cicero* 724a 725d
- 15 TAUTOLOGICAL *Annals* k i 10d 11b 12 13d k i 126a b / *Histories* bk iv 290a d
- 23 HOBBS *Leviathan* PART II 106a b 127d 128b 128d 129b d 157c d 158d 159a
- 25 MONTAIGNE *Essays* 147b 148a
- 26 SHAKESPEARE *Julius Caesar* ACT I: SC I [226-253] 582d 583a SC II 583 586c
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- 38 MONTESQUIEU *Spirits of Laws* bk viii 89c 90c bk xiv 266b
- 40 GIBSON *Decline and Fall* 64a 284b 343a b 384d 385b
- 43 FEDERALIST NUMBER 1 9d 30c NUM 2 16 93d 94a NUMBER 58 181b m
- 43 MILL *Representative Government* 361b 362
- 44 BOSWELL *Johnson* 374a d
- 46 HEGEL *Philosophy of History* INTRO 153d 154a PART 273d 274a

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- 7 PLATO *Protagoras* 43b d / *Gorgias* 287d 288a / *Republic* bk ii 316 319c bk v 369c 370a bk vi 373c 375b bk vii 390b 391b / *Statesman* 598b 608d
- 9 ARISTOTLE *Politics* k iii ch ii [128 39-1282 41] 479b-480b bk v ch iii [1309<sup>a</sup> 33<sup>b8</sup>] 511c d
- 43 FEDERALIST NUMBER 36 115a
- 43 MILL *Liberty* 320 323a / *Representative Government* 355b 362c 363b 366 408 417 PART III
- 46 HENRY III *Philosophy of Right* PART I: par 89 297 97b 99b passim par 3 100b 101a ADDITIONS 35 138 / *Philosophy of History* PART I 213b 214d
- 8 The advantages and disadvantages of parliaments in politics
- 6 HENRY III *History* vi 23b-d
- 7 PEARSON *Apology* 207b 208a / *Republic* k i 305d 306b k v 379d 380b k vii 390b 391b

- (8) *The offices of state the statesman king, or prince* 8c *The advantages and disadvantages of participation in political life*

9 ARISTOTLE *Ethics* BK I CH 7 431d 432c / *Politics* BK I CH 1 [1252<sup>b</sup> 1253 39] 446a d BK III CH 6 [1278<sup>b</sup> 15 29] 475d-476a BK VII CH 1 527a 530a

12 LUCRETIVS *Nature of Things* BK III [59-86] 30d 31b [995-100] 42d-43a BK V [1117 1135] 75d

12 EPICTETUS *Discourses* BK I CH 10 125b 126c BK III CH 22 195a 201a

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25 MONTAIGNE *Essays* 46d 107a 112d 354a b 381a 388c 480b 482b 486b-497b e p 486b 489b

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■ ROUSSEAU *Inequality* 359a 366d / *Political Economy* 381c 382b / *Social Contract* BK I 391b 394d esp 393b c BK II 398a b

39 SMITH *Wealth of Nations* BK V 309a c

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43 MILL *Utilitarianism* 460a-461c

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54 FREUD *Civilization and Its Discontents* 780b-781d 788d 789b / *New Introductory Lectures* 853a b

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- 9a Commerce and trade between states commercial relations and trade agreements free trade and tariffs

5 ARISTOTLE *Nicomachean Ethics* [719-999] 463c 466d

6 HERODOTUS *History* BK IV 158b c

6 THUCYDIDES *Peloponnesian War* BK I 350d 351a 365b 381b

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9 ARISTOTLE *Politics* BK I CH 9 [1257<sup>a</sup> 1257<sup>b</sup> 1257<sup>c</sup> 1257<sup>d</sup> 1257<sup>e</sup> 1257<sup>f</sup> 1257<sup>g</sup> 1257<sup>h</sup> 1257<sup>i</sup> 1257<sup>j</sup> 1257<sup>k</sup> 1257<sup>l</sup> 1257<sup>m</sup> 1257<sup>n</sup> 1257<sup>o</sup> 1257<sup>p</sup> 1257<sup>q</sup> 1257<sup>r</sup> 1257<sup>s</sup> 1257<sup>t</sup> 1257<sup>u</sup> 1257<sup>v</sup> 1257<sup>w</sup> 1257<sup>x</sup> 1257<sup>y</sup> 1257<sup>z</sup> 1258<sup>a</sup> 1258<sup>b</sup> 1258<sup>c</sup> 1258<sup>d</sup> 1258<sup>e</sup> 1258<sup>f</sup> 1258<sup>g</sup> 1258<sup>h</sup> 1258<sup>i</sup> 1258<sup>j</sup> 1258<sup>k</sup> 1258<sup>l</sup> 1258<sup>m</sup> 1258<sup>n</sup> 1258<sup>o</sup> 1258<sup>p</sup> 1258<sup>q</sup> 1258<sup>r</sup> 1258<sup>s</sup> 1258<sup>t</sup> 1258<sup>u</sup> 1258<sup>v</sup> 1258<sup>w</sup> 1258<sup>x</sup> 1258<sup>y</sup> 1258<sup>z</sup> 1259<sup>a</sup> 1259<sup>b</sup> 1259<sup>c</sup> 1259<sup>d</sup> 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- The motives or impulses underlying political association *see* EMOTION 5a GOVERNMENT 1c JUSTICE 9b LOVE 4-4b WEALTH 7a
- The problem of the individual and the common good in the relation of man to the state *see* CITIZEN 1 DUTY 10 GOOD AND EVIL 5d HAPPINESS 5-5b LAW 1a LIBERTY 1c
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- The conflict of classes within the state and especially for other discussions of the class war and the classless society *see* DEMOCRACY 5b(4) LABOR 7c-7c(3) OLIGARCHY 5c OPPOSITION 5b REVOLUTION 5a-5c WAR AND PEACE 2c WEALTH 9b
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## Chapter 91 TEMPERANCE

### INTRODUCTION

MOST outstanding figures in history most heroes of legend or fiction are men of strong passions of ambition and of pride. They are driven by desires which tend to be limitless. Few exemplify moderation. Few stop short of excess in anger or love or in their striving for power and pleasure. They may curb their appetites in one direction only to indulge them without rein in another. They do not follow in all things the counsels of temperance expressed by the ancient maxim: Nothing overmuch.

Achilles is not temperate in his wrath nor does Odysseus for all his craft and cunning exhibit self control when his vanity or curiosity is at stake. The tragedies of Euripides more perhaps than those of Sophocles and Aeschylus embody the hubris or pride which is common to all tragic figures in some particular form of intemperance such as the boundless hate of Medea or the abstemiousness of Hippolytus. One play especially *Bacchantes* takes intemperance for its central theme and sets the disciples of the Dionysiac spirit in mortal conflict with the puritans and their prohibitions. Comedy as well as tragedy flows from intemperance as when we smile at the exaggerated sentimentality of the romantic lovers described by Cervantes and Fielding. Chaucer and Shakespeare or find merriment in the indulgences of Sir John Falstaff, Pantagruel and Panurge or Tristram Shandy.

The great books of history add their evidence. They make fiction seem pale by comparison with the excesses of cruelty and sensuality which if they are not presented as fact might be dismissed as unimaginable. Page after page of Tacitus and Gibbon often describe in an unrelieved sequence human debauchery brutalities and refinements ingeniously designed to reach some new extreme in order to procure through no other satisfaction for appetites al-

ready overindulged and weary of familiar pleasures.

Nor is the historian's panorama of intemperance limited to the uncontrolled indulgences of the few—the oriental despots described by Herodotus or the Caesars and their retinues in the imperial court of Rome. Armies in the field and the mob formations of civilian life are depicted in wanton and notorious behavior. Whole peoples are described as being given to luxurious living or as wanting in standards of public decency. The few exceptions in antiquity such as Spartan rigor or the chastity if not the sobriety of the primitive Germans only accentuate by contrast the immoderate tenor of life in most ancient societies.

Darwin seems to think that a much greater degree of self control characterizes modern life both public and private though his opinion on this score may give undue weight to the conventions so much insisted upon in England under Queen Victoria. Temperance according to him is a virtue peculiar to civilized life. The greatest intemperance he writes is no reproach with savages.

Darwin places temperance along with prudence among the so-called self-regarding virtues which do not obviously though they may really affect the welfare of the tribe and which have never been esteemed by savages though now highly appreciated by civilized nations. That Darwin has modern society in mind when he speaks of civilized nations may be inferred from his remarks about the sensuality of the Greeks and Romans. This seems to be confirmed by his statement that the hatred of indecency which is so valuable an adjunct to chastity is a modern virtue appertaining exclusively to civilized life.

What may be noted here and questioned—

in addition to the validity of Darwin's comparison of modern and ancient culture—is the tendency to identify temperance with chastity or at least with restraint if not abstinence in the sphere of the sexual impulses. In our day the general notion of virtue is often restricted to the virtue of chastity as when we use the words virtuous woman to signify one who is chaste or woman of easy virtue to signify one who is not. But spectacles of gluttony and drunkenness of avarice or greed are ever present to remind us that man can be intemperate in more ways than one. Darwin's implication of progress from licentious to moderate living may have less justification when we consider all the forms which intemperance can take.

Darwin furthermore seems to distinguish between courage and temperance in relation to the level or degree of civilization. Unlike temperance courage he thinks is demanded by primitive as well as civilized life because it concerns the welfare of society as much as the well-being of the individual. Since no man can be useful or faithful to his tribe without courage this quality he says has universally been placed in the highest rank. On the point of this comparison between the two virtues Freud appears to disagree. Though he too considers temperance or self control largely in the sphere of the sexual instincts he seems to think that any form of organized social life whether regarded as primitive or civilized exacts certain restraints from the individual for the sake of the common good. Temperance no less than courage serves the tribe or the state.

Civilization has been built up Freud writes under the pressure of the struggle for existence by sacrifices in gratification of the primitive impulses and that is to a great extent forever being re-created as each individual successively joining the community repeats the sacrifice of his instinctive pleasures for the common good. The sexual are amongst the most important of the instinctive forces thus utilized they are in this way sublimated that is to say their energy is turned aside from its sexual goal and diverted towards other ends no longer sexual and socially more valuable.

Society may depend on the temperance of its members without being able to exact temperance from them. Writers like J. S. Mill for

example question the right of society to enforce temperance upon its members by the enactment of sumptuary laws especially with regard to food and drink. The supposition seems to be that the intemperate man injures only himself—to do which is the prerogative of his personal liberty—whereas the unjust man injures others. We shall return to the consideration of this issue later after we have examined the nature of temperance and its relation to other virtues such as justice courage and wisdom or prudence.

IF THE POETS AND the historians describe the prevalence and the range of man's intemperance the moralists tend to be unanimous in recommending self control or moderation. There is hardly any variety of moral theory—whether developed in terms of law and duty or in terms of happiness and virtue whether appealing to *a priori* principles or to criteria of utility empirically applied—which does not recommend the discipline of desire by reason and which does not condemn sensuality self-indulgence unchecked appetites or passions run wild.

The word temperance itself is not always used nor is the technical notion of virtue always implied by those who advocate what Milton calls the rule of not too much by temperance taught. For some writers on the other hand temperance and virtue are almost identical. They think the essence of temperance is moderation and the virtuous life is the reasonable one. It is one in which reason moderates the passions and limits the pursuit of pleasure.

For example Freud's theory of the reality principle seems to reflect traditional notions of temperance. A person dominated by the pleasure principle is infantile in character. The transition from the pleasure principle to the reality principle he points out is one of the most important advances in the development of the ego. When the ego learns that it must inevitably go without immediate satisfaction postpone gratification learn to endure a degree of pain and altogether renounce certain sources of pleasure it becomes reasonable is no longer controlled by the pleasure-principle but follows the reality principle which seeks a delayed and diminished pleasure one which is assured by its realization of fact its relation to reality.

So too Spinoza's doctrine that human bondage consists in being subject to the tyranny of the passions whereas human freedom stems from the rule of reason can be read as an apostrophe to temperance. Descartes' maxim to try always to conquer myself rather than for tune and ~~to~~ alter my desires rather than change the order of the world is still another expression of the insight that peace of mind comes from self control. Though Kant does not think temperance deserves to be called good without qualification he does affirm that moderation in the affections and passions self control and calm deliberation are not only good in many respects but even seem to constitute part of the intrinsic worth of the person.

It is MONTAIGNE who magnifies temperance beyond virtue and makes it the measure of the sound pursuit of every sort of good even virtue itself. Without temperance he writes in his essay *Of Moderation* we can corrupt things that in themselves are laudable and good we may grasp virtue so that it becomes vicious if we embrace it too stringently and with too violent a desire. Montaigne opposes those who say there is never any excess in virtue. On the contrary he thinks that a man may both be too much in love with virtue and be excessive in a just action. I love temperate and moderate natures. An immoderate zeal even to that which is good though it does not offend astonishes me and puts me to study what name to give it.

As with virtue so with wisdom or philosophy. He quotes Holy Writ to the effect that we should be soberly wise not try to be wiser than befits our natures. We should not dive into philosophy beyond the limits of profit taken moderately. It is pleasant and useful. There is in short no pleasure so just and laudable where intemperance and excess are not to be condemned.

Montaigne sees temperance as augmenting the pleasure of life rather than diminishing it. He subscribes to Plato's statement in the *Lysis* that the temperate life is in all things gentle having gentle pains and gentle pleasures whereas the intemperate life has violent pains and pleasures, and vehement and stinging desires and loves utterly insane and in the tem-

perate life the pleasures exceed the pains but in the intemperate life the pains exceed the pleasures in greatness and number and frequency. To overlook this Montaigne elsewhere suggests is to suppose that the regimen which stops the toper before he has drunk himself drunk the glutton before he has eaten to a surfeit and the lecher before he has got the pot, is an enemy to pleasure. Yet in his love of temperate and moderate natures Montaigne repeatedly counsels us to avoid being overzealous even about temperance itself. The maxim Nothing overmuch applies to virtue as well as to the pleasure-seeking that virtue tries to control.

CONSIDERED IN TERMS of Aristotle's theory that all the moral virtues consist in a mean between excess and defect Montaigne seems to be identifying moderation with the observance of the mean so that moderation becomes an aspect of every virtue including temperance itself as one virtue among others. Thus the courageous man is one who fears neither too much nor too little but is moderate with respect to peril and pain. Accordingly a man cannot be too courageous but only too fearless and so rash or foolhardy.

But it may be supposed that if moderation enters into all the virtues such virtues as temperance and courage are not distinct. Holding them to be distinct in regard to the objects with which they deal Aquinas admits that each of the major virtues can be taken to denote certain general conditions of virtue so that in a sense they overflow into one another. He defines temperance as a disposition of the soul moderating any passions or acts so as to keep them within bounds and fortitude as a disposition whereby the soul is strengthened for that which is in accord with reason against any assaults of the passions or the toil involved in any work to be done. So conceived Aquinas thinks it is possible to see how temperance and fortitude are in some sense one.

The man who can curb his desires for the pleasures of touch is more able to check his daring in the face of danger and in this sense fortitude is said to be temperate. The man who is able to stand firm against the dangers of death is more able to remain firm against the onslaught of pleasures and so temperance can be

said to be brave. Thus temperance enters into other virtues insofar as it leads men to observe the mean in all things—just as fortitude enters into temperance because it strengthens men against the enticements of pleasure as well as against the fear of pain.

The general theory of virtue in terms of which the several virtues are distinguished and their connections traced is discussed in the chapter on VIRTUE AND VICE and the special virtues to which temperance is related are considered in the chapters on COURAGE, JUSTICE and PRUDENCE. Here we must be concerned to observe how the general conception of virtue is exemplified in the definitions of temperance given by those who like Plato, Aristotle and Aquinas consider it to be not the whole of virtue but one of the major virtues and distinct from the others.

THOUGH PLATO AND Aristotle do not conceive virtue in the same way and though they diverge in analyzing particular virtues such as justice or wisdom and in describing how particular virtues are related to one another, they nevertheless seem to concur on a number of points in their treatment of temperance.

In the *Gorgias* Callicles asserts that only those who are unable to satisfy their desire for pleasures praise temperance and call intemperance base. But he asks: what could be more truly base or evil than temperance to a man who might freely be enjoying every good and has no one to stand in his way? And he concludes by saying that luxury and intemperance and license, if they be provided with means, are virtue and happiness.

In reply Socrates tries to persuade Callicles that instead of the intemperate and inattentive life one should choose that which is orderly and sufficient and has a due provision for daily needs. He compares the intemperate man to a vessel full of holes because it can never be satisfied. By analogy with the sound and the leaky vessel Socrates describes the temperate man as able to satisfy his limited desires where the intemperate man of boundless desire can never pause in his search for pleasure. If he pauses for a moment, he is in an agony of pain. Such are the respective lives, he adds, and now would you say that the life of the intem-

perate is happier than that of the temperate?

Callicles claims to be unconvinced but later Socrates gets him to admit that in all things—in a house or a ship, in the body or the soul—order is good and disorder evil. He then proceeds to point out that order is the principle of health in the body and of temperance in the soul. It is in these terms that Socrates defines temperance in the *Republic* as the ordering or controlling of certain pleasures and desires. In the human soul he explains there is a better and also a worse principle and when the better has the worse under control, then a man is said to be master of himself.

The words temperance and self mastery are almost interchangeable both signify the rule of the better part over the worse. Just as the courageous man is one whose spirit retains in pleasure and in pain the commands of reason about what he ought or ought not to fear, so the temperate man is one in whom the ruling principle of reason and the two subject ones of spirit and desire are equally agreed that reason ought to rule.

In somewhat similar terms Aristotle defines temperance and courage by reference to pleasure and pain. The man who abstains from bodily pleasures and delights in this very fact is temperate while the man who is annoyed at it is self-indulgent and he who stands his ground against things that are terrible and delights in them or at least is not pained is brave while the man who is pained is a coward. Like Plato, Aristotle makes the rational principle the source of these virtues. It is reason or more precisely one of reason's virtues, prudence, which determines the mean between excess and defect with regard to pleasure and pain or fear, anger and the other passions.

In the *Freud* Aristotle regards self-indulgence as infantile or childish. Children live at the beck and call of appetite and it is in them that the desire for what is pleasant is strongest. When such desire is not regulated by reason,

it will go to great lengths for in an irrational being the desire for pleasure is insatiable even if it tries every source of gratification. Where Freud speaks of the pleasure principle submitting to the reality principle, Aristotle says—as the child should live according to the direction of his tutor, so the appetitive element

should live according to the rational principle. The appetitive element in a temperate man should harmonize with the rational principle.

According to Aristotle temperance is concerned not with all pleasures but with the kind of pleasures that other animals share in which therefore appear slavish and brutish: these are touch and taste. Self-indulgence is a matter of reproach because it attaches to us not as men but as animals. To delight in such things and to love them above all others is brutish.

The endurance of pain which is central to the nature of courage enters into temperance incidentally. The self-indulgent man is pained more than he ought at not getting pleasant things, whereas the temperate man is not pained at the absence of what is pleasant or at his abstinence from it. But total abstinence is not temperance any more than over-indulgence is. The temperate man occupies a middle position between those who have an insatiable craving for pleasure and those who fall short with regard to pleasures and delight in them less than they should. Such insensibility Aristotle declares is not human either.

When reason curbs the desire for bodily pleasures it is not to lessen sensual pleasure in the opinion of Aquinas but to prevent the force of concupiscence from cleaving to it immoderately. By *immoderately* he explains I mean going beyond the bounds of reason as a sober person does not take less pleasure in food eaten in moderation than the glutton but his concupiscence lingers less in such pleasures. Though Aquinas agrees with Aristotle in defining temperance strictly as moderation with respect to the pleasures of taste and touch such as the pleasures of the table or of sex he associates with temperance those virtues which involve moderation with respect to other pleasures.

For example there is liberality with respect to money as an object of love or pleasure. Neither the spendthrift nor the miser is temperate. Friendliness or affability and gentleness represent temperance in the relation of a man to the pleasures of fellowship and the virtue which Aristotle calls *eu rapetia* is similarly classified by Aquinas as being a moderate indulgence in the pleasures of recreation of sport

and games the opposites of which in excess and defect can be called buffoonery and boorishness. Even the pleasures of learning can be pursued intemperately so that an undue craving for knowledge—beyond the proper limits and for the wrong reasons—is according to Aquinas the vice of curiosity.

THE NOTIONS OF ABSTINENCE and continence seem to be closely related to the idea of temperance. The words are often used interchangeably. But as we have seen according to the theory of virtue as a mean between extremes of excess and defect temperance calls for a moderate indulgence in pleasures not abstinence from them entirely. This raises the question whether the asceticism of the religious life violates the rule of reason by a kind of immoderate withdrawal from ordinary pleasures. What to the psychoanalyst may look like pathological self-denial or to the philosopher like a violation of nature takes in the eyes of the Christian theologian the form of heroic temperance a supernatural perfection of the virtue.

When in the religious life a man does his utmost to strive onward to divine things then according to Aquinas in those who are tending towards the divine similitude temperance is a *perfecting* virtue. So far as nature allows it neglects the needs of the body. In those who have already attained to the divine likeness the *perfect* virtue of temperance is one which knows no earthly desires.

Since use of sexual union hinders the mind from giving itself wholly to the service of God and since the use of venery withdraws the mind from that perfect intentness on tending to God the perpetual continence of the celibate life as well as the voluntary poverty of the monastic life seem to Aquinas requisite for religious perfection.

Augustine in his *Confessions* tells of the time when I thought I should be impossible if sexable if I had to forego the embraces of a woman and I did not think of Your mercy as a healing medicine for that weakness because I had not tried it. I thought that continency was a matter of our own strength and I knew that I had not the strength for in my utter foolishness I did not know the word of Your Scripture that none can be continent unless you give it.

Though he separated from his mistress in order to prepare for marriage he discovered that it was not really marriage that I wanted I was simply a slave to lust. He recounts the struggles which finally enabled him to turn in the other direction and to see the austere beauty of continence serene and indeed joyous and with her he adds I saw such hosts of young men and women gray widows and women grown old in virginity and in them all continence herself not barren but the fruitful mother of children her joys by You Lord her Spouse

But there is another meaning of continence according to which it is condemned by the philosopher who conceives temperance as a natural virtue. The reason for Aristotle's condemnation of continence differs from the reason he gives for his disapproval of abstinence. Abstinence—at least on the natural plane—is an immoderate denial of pleasure. Continence is opposed to temperance because it merely represents reason's inhibition of the act prompted by a licentious desire for pleasure. It is not an habitual moderation of desire itself. Aristotle's emphasis on habit therefore leads him to insist upon the distinction between temperance and continence.

We group together the incontinent and the self-indulgent the continent and the temperate man. Aristotle writes because they are concerned somehow with the same pleasures and pain but though they are concerned with the same objects they are not similarly related to them. The difference lies in the fact that a man acts continently in a particular situation when his reason is able to overcome an immoderate desire for pleasure and incontinently when the force of his desire brushes reason aside whereas a man not only acts temperately but is temperate in character when his desires are themselves habitually moderated to be in accord with reason.

The temperate man therefore has no need for continence. Nor is the incontinent man to be confused with the intemperate for the latter is not convinced that his desires are inordinate. The continent man is one who when acting against reason knows that he is doing so. Though both the continent and the temperate man do nothing contrary to the rule of reason for the

sake of bodily pleasures the one according to Aristotle has bad appetites the other is free from them.

THE CONTINENT MAN is not the only one who gives the appearance of temperance without being really temperate in character. Some men says Aristotle are moderate by nature—from the very moment of birth fitted for self control. What appears to be temperance in them therefore is not in his opinion a virtuous habit acquired by good acts but simply a natural capacity to control their desires or a temperamental constitution which happens not to be ridden by very strong desires. They do not deserve to be praised for their apparent self control neither do those who manage to be moderate about certain pleasures but give themselves free rein with respect to other desires. The miser who limits his bodily comforts in order to amass a pile of gold is hardly temperate.

Gibbon writes of the Emperor Julian that he seldom recollected the fundamental maxim of Aristotle that true virtue is placed in an equal distance between the opposite vices. Julian's lack of temperance appears however not merely in the opposite extreme to which he went to express his contempt for luxury sleeping on the ground and renouncing the decencies of dress and cleanliness. Though genuinely moderate in some things such as his diet he went to excess in others overdoing his preoccupation with affairs of state and working incessantly for long hours day after day. He considered every moment as lost that was not devoted to the advantage of the public or the improvement of his own mind. By this avarice of time Gibbon observes he seemed to protract the short duration of his reign.

Temperance in a particular respect is sometimes praised as a virtue relative to a specific and limited goal. Considering the wealth of nations Adam Smith looks upon prodigality as a major vice and regards parsimony as an indispensable virtue. Capitals are increased by parsimony he writes and diminished by prodigality and misconduct. Parsimony and not industry is the immediate cause of the increase of capital. By what a frugal man annually saves he not only affords maintenance to an additional number of productive hands for th--



or the ensuing year but like the founder of a public workhouse he establishes as it were a perpetual fund for the maintenance of an equal number in all times to come

Capital funds are perverted by the prodigal By not confining his expenses within his income Smith declares he encroaches upon his capital By diminishing the funds designed for the employment of productive labor he necessarily diminishes the quantity of that labor which adds a value to the subject upon which it is bestowed and consequently the value of the annual produce of the land and labour of the whole country If the prodigality of some was not compensated by the frugality of others the conduct of every prodigal by feeding the idle with the bread of the industrious tends not only to beggar himself but to impoverish his country

From the point of view of augmenting wealth Smith may be right in calling every prodigal a public enemy and every frugal man a public benefactor Marx however raises the question whether thrift or parsimony represents moral virtue in the capitalist himself He mocks the classical or what he calls the vulgar economic theory which tends to identify capital with abstinence and taking Adam Smith's statement that industry furnishes the material which saving accumulates he interprets *saving* to mean the *reconversion of the greatest possible portion of surplus value or surplus product into capital*

For Marx the question is in addition to being economic a moral and psychological one He describes the capitalist as suffering from a Faustian conflict between the passion for accumulation and the desire for enjoyment His parsimony or abstinence from certain pleasures hardly signifies genuine temperance for according to Marx the capitalist is like the hoarder who makes a sacrifice of the lusts of the flesh to his gold fetish Elsewhere he says that the boundless greed after riches is common to the capitalist and the miser but while the miser is merely a capitalist gone mad the capitalist is a rational miser

In Marx's opinion the capitalist cannot even boast of personal thrift to any great extent

The capitalist gets rich not like the miser in proportion to his personal labor and restricted

consumption but at the same rate as he squeezes out the labor power of others and enforces on the laborer abstinence from all life's enjoyments

THESE CONSIDERATIONS OF political economy lead us naturally back to the issue raised earlier concerning the significance of temperance for society or the effect of private intemperance on the public welfare

What is the relation between temperance and justice? Aristotle answers this question in terms of his conception of general justice as including the social aspect of all the other moral virtues To the extent that his courage or temperance can affect others or the common good a man is required by justice to be temperate and brave It is proper for the law he says to bid us do

both the acts of a brave man (e.g. not to desert our post nor take flight nor throw away our arms) and those of a temperate man (e.g. not to commit adultery nor to gratify one's lust)

Though he accepts Aristotle's notion of general justice Aquinas puts a limitation on the extent to which the positive law of the state can regulate or enforce the acts of a virtue like temperance Because it is framed for a multitude of human beings the majority of whom are not perfect in virtue human laws do not forbid all vices from which the virtuous abstain but only the more grievous vices from which it is possible for the majority to abstain and chiefly those that are injurious to others without the prohibition of which human society could not be maintained The point is not that some acts of temperance cannot be prescribed by law but rather that the human law does not command every act of temperance but only those which are ordainable to the common good

The principle being clear the problem remains extremely difficult when the question is one of regulating certain types of behavior such as insobriety extravagance or adultery

Montesquieu discusses the difficulties of administering under the Julian law the punishments decreed by the Roman emperors against intemperance of women He considers the advantages and disadvantages relative to different forms of government of sumptuary laws directed at maintaining frugality and avoiding

luxury ■ for example in Venice where the rich were compelled by laws to moderation and were thus so habituated to parsimony that none but courtesans could make them part with their money As for sobriety he seems to think that the problem varies with the climate the Mohammedan law against the drinking of wine being improper for cold countries where the climate seems to force them to a kind of national intemperance very different from personal inebriety A German drinks through custom and a Spaniard by choice

The reasons which have been offered against the legal prohibition of intoxicants are many and various To those who hold that temperance consists in moderation not abstinence temperance laws are misguided as well as misnamed To others like William James drunkenness as teetotalers use the word is one of the deepest functions of human nature Half of both the poetry and tragedy of human life

would vanish if alcohol were taken away To still others like Mill such sumptuary laws are wrong in principle because consumption which they try to regulate is a private matter

If an individual's intemperance injures only himself he may be morally reprobated but Mill holds he ought not to be prosecuted by law A man who through intemperance or extravagance becomes unable to pay his debts or becomes incapable of supporting his family might be justly punished but it is for the breach of duty to his family or creditors not for the extravagance Again Mill writes No person ought to be punished simply for being drunk but a soldier or a policeman should be punished for being drunk on duty Whenever in short there is a definite damage or a definite risk of damage either to another individual or to the public the case is taken out of the province of liberty and placed in that of morality or law

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## REFERENCES

To find the passage cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Iliad* BK II [265-283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b-164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* BK II [265-283] 12d.

**BIBLE REFERENCES** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7:45—(D) *II Esd* as 7:46.

**SYMBOLS** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference passim signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

## 1 The nature of temperance

- 7 PLATO *Charmides* 1a 13d esp 7b c / *Protagoras* 55a / *Phaedrus* 120b d / *Phaedo* 225d / *Gorgias* 275b 284d / *Republic* BK III 326c 334a BK IV 347d 355a / *Statesman* 605d 608d / *Philebus* 627c 628a / *Laws* BK I 645d 652d BK III 673d 674b BK V 689d 690c
- 8 ARISTOTLE *Ethics* BK II CH 3 [1104<sup>b</sup> 13] 350a c 7 [1107<sup>b</sup> 3] 353a c 8 354a d BK III CH 10-12 364b 366a c BK II CH 7 [1150<sup>a</sup> 9-23] 400d-401a CH II [1152<sup>b</sup> 15 17] 403d CH 12 [1153<sup>a</sup> 7 35] 404c d / *Rhetoric* BK I C 19 [1366<sup>b</sup> 14 c] 609a
- 12 EPICTETUS *Discourses* BK II CH 17 158d 161a BK IV CH 4 225a 228a
- 13 ALEXANDER *Mediations* BK I SECT 16 254d 255d BK VI SECT 55 283b c BK III S CT 39 288c BK IX SECT 7 292b
- 17 PLOTINUS *First Ennead* TR II CH I 6c CH 3 7c d CT 6-7 9c 10a
- 18 AUGUSTINE *City of God* BK XIX CH 4 511d 512a
- 19 AQUINAS *Summa Theologiae* PART I Q 59 A 4 REP 3 309a 310a BK II Q 34 A 1 REP 2 768c 769d Q 35 A 6 REP 3 777b 778c
- 20 AQUINAS *Summa Theologiae* PART II Q 60

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- 21 DANTE *The Comedy* PURGATORY XVII [82 139] 79b d
- 22 C. I. LUTHER *Parson's Tale* par 72 73 535b 354a b 489b 490c 540b
- 25 MONTAIGNE *Essays* 89b 91b 165c 166a 354a b 489b 490c 540b
- 30 BACON *Advancement of Learning* 78a b
- 31 S. THOMAS *Ethics* PART IV PROP 61 443a b APPENDIX III 447b
- 32 MILTON *Paradise Lost* BK XI [527-551] 310b-311a / *A Copag* I ca 390b 391a
- 33 PASCAL *Pensées* 69-71 180b 181a
- 42 KANT *Fundamental Principles of Metaphysics of Morals* 250b / *Principles of Metaphysical Elements of Ethics* 3 8d 379 / *Judgement* 586d 587a
- 43 MILL *Liberty* 305c 307a
- 44 BOWEN *Johns* 92c
- 49 DARWIN *Descent of Man* 313d 314d

1a The relation of temperance to virtue generally and to the virtues of courage and justice

5 FELIPE *Supplement* [313-317] 265d 266b / *Iphigenia at Aulis* [543-589] 429d-430a

- 5 A STOPHANES *Cluds* [955 1104] 500a 502
- 6 THUCYDIDES *Pelopo nesian II* BK I 370a c
- 7 PLATO *Charm des I* 13d / *Gorgas* 284a 285a / *Republic* BK II 311c 312b BK IV 346a 355a BK VIII 407a-408a / *St tesman* 605d 608d / *Laus* BK I 643a 644b 645c BK III 673d 674b BK V 689d 690c
- 8 A ISTOTLE *Topes* BK III CH 2 [117 26-32] 164a BK VI CH 13 [150 i 15] 204c
- 9 ARISTOTLE *Ethics* BK I CH 3 [1103 3 0] 348c d BK II CH 2 [1104 i] CH 3 [104<sup>b</sup> 13] 349c 350a CH 6 351 352d CH 7 [11 7 33-38] 353a CH 8 354a d BK III CH 12 [1119<sup>2</sup> 33] 365d 366a BK V CH 1 [1129<sup>2</sup> 2 24] 377a BK IX CH 8 [1168<sup>3</sup> 3-1169 i] 422b d BK X H 8 432d 434a passum / *Politics* K II CH 6 [126<sup>a</sup>-28 37] 460c d BK V CH 5 [334 ii 67] 539a b / *Rhetoric* BK I CH 9 [1366 33] 22a [608d 609a K II CH 4 [1381<sup>a</sup> 24-25] 627a
- 12 AURELIUS *M d u s i s n s* BK I I SECT 6 261a-c BK V S CT I 271a BK VIII SECT 39 288 K XI SECT I 303b c
- 17 P OYINUS *First Ennead* TR I CH 3 7 d CH 6-7 9 10a
- 18 AU L S NE *Cuy of God* BK XIX CH 4 511d 512 CH 0 523d 524a
- 19 AQUINAS *Summa Theologica* ART I Q 50 A 4 REP 3 309a 310 PART I Q 35 A 6 RE 3 777b 778c
- 20 AQUIN S *Summa Theologica* PART I I Q Q 60-61 49d 59d Q 65 AA I 3 70b 73d Q 66 A I 75b-76b A 4 78 79b P RT SL I Q 9f A 6 REP 3-4 8-9 1058a 1061b
- 25 MONTA GN *Essays* 89b d
- 26 SHAKES PARE *M e for M e u r* ACT I SC IV [48-61] 178b c ACT II SC I [162 8] 183d 184a C IV [1 17] 184c d
- 30 BA ON *Ad cement of Learning* 72b 80c 81a
- 32 MILTON *C mus* [331 489] 40b-44a / *S son Ago ste* [38-59] 340b [541-5 6] 351b 352a / *Ar p gu c a* 390
- 42 HANT *Fund Prin M i phys c of M l s* 256a b / *P f M e i phys* [Elem e i s of Eth s 378d 379a
- 49 DARWIN *D cent f M n* 315b-316a
- 16 The rel t on of tempe ance to knowledge and pr den the d t rmination of the m n of temp nce
- APD RYFRA *H idem of S lomon* 8 5 7—(D)
- OT B k of W d m 8 5-7
- 7 PLATO *Charmide* 1a 13d esp 7a / *P otogo as* 61c 62a / *C atyls* 99c / *Meno* 183d 184c / *Ph d* 225d 226c / *Republic* BK I 338a 339a / *Sophist* 557b d / *Lau* BK IV 679c d / *Seven h Letter* 808d 809a
- 9 A I ROTL *Eth c s* BK I CH 13 [03 3] 348 d K I CH [1104 0 6] 349 d CH 6-9 351 355 esp CH 6 [06<sup>b</sup> 36-1107<sup>a</sup> 2]
- 352c BK V CH 9 [113<sup>a</sup> 6] 385b-c BK VI CH I [1138<sup>b</sup> 6-34] 387a b CH 5 [1140<sup>b</sup> 11 19] 389b c CH 9 [142<sup>b</sup> 17 34] 391d 392b CH 13 394b d K VII CH 6 [1149<sup>b</sup> 24-1150 i] 400b c CH 8-9 401c-403a CH II [1152<sup>b</sup> 15 17] 403d CH 12 [1153 27-35] 404 d BK X CH 8 [1178 16-19] 432d CH 9 [11 9<sup>b</sup> 40] 434b-c
- 11 NICO IAC IUS *A r i m h m i c* BK I 826d 827a
- 15 IACITUS *A n a l s* BK II 31a b
- 17 PLOTINUS *First En ad* TR II CH 6-7 II 10a
- 18 ALGU TINE *City of God* BK XIX CH 4 511d 512a
- 19 AQUINA *Summa Theologica* PART I Q 113 A I REP 2 576a d
- 20 AQUINAS *Summa Theologica* PART I II Q 56 A 2 REP 2 30c 31a Q 57 A 5 39a 40 Q 58 A - 42a 43a A 4 44a d Q 63 A 4 ANS and REP 2 65d 66c II 64 A 2 67d 68b Q 65 I 70b 72a Q 66 A I 75b-76b PART II I Q 180 A 608c 609c
- 32 MILTON *Parad se Lost* BK VI [5 -543] 310b 311a / *S m s n Agon stes* [38-59] 340b / *A copog n a* 390a
- 33 PASCAL *Pensées* 69-71 180b-181a 382 383 238b
- 38 MON SQU RU *Spir of Laws* BK XXVIII 259b
- 39 S ITH *Wealth of Nat ons* K V 346c 347a
- 42 H NT *Pr f Metaphys al Elements of Eth s* 376d 377b
- 44 BOSW LL *J hns* 309 -c 404b-405c
- 53 JAM S *Psy hol gy* 14b 15a
- 1c Temperance and continence the counter f ts of temperance
- 7 PLATO *Polag as* 59c 60a / *Phaed* 225d 226a
- 8 A ISTOTLE *T p i c t* BK VI CH 8 [46<sup>b</sup> 4 28] 200d
- 9 A R TOTLE *Eth s* BK I H 3 [1 2<sup>b</sup> 13 8] 348a c K III C I I [119 35<sup>b</sup> 19] 366a c BK VI I Q [42<sup>b</sup> 7 34] 391d 392b C I 3 [1144<sup>b</sup> 9] 394b-c K VI C I I 4 395 399a esp CH - [146 9-7] 396 CH 4 [1148 4] 398b c CH 5 [49 5-4] 399 -d II 6 [149<sup>b</sup> 24 150<sup>a</sup> 1] 400b CH 7-9 400d-403a esp 19 [115<sup>b</sup> 23 115 6] 402d-403a CH I [15 7 24] 403a b
- 18 AUGUSTIN *C fess n* BK VI pa 20 41b-c K V I par 26-27 60b-c
- 19 AQUINA *Summa Theologi a* PART I Q 98 A 2 RE 3 517d 519a
- 20 AQUIN S *Summa Th logica* PART I II Q 58 A 3 REP - 43b-44 Q 63 A I 63 64a Q 77 AA 2 3 145d 148b Q 109 A IO AN 347 d PA T I I Q 7 A REP 3 746 747b ART II LP L II 96 AA 3 4 1053 1055c
- 22 CHAOC R Pa s *Tale p* 7-73 535b p r 7-83 540b-542b
- 23 HO E *Levi th n* RT IV 272d
- 25 MO TAI NE *Es* j 89b 91b 394d 395b

- 2 The ariset of intemperance the related vices of sensuality abstemiousness cruelty curiosity inordinate des re

OLD T STAMENT *Proverbs* 11 17 12 10 25 28  
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28 7 8 / *Habakkuk* 2-4 5 15 17—(D) *Habakkuk* 2-4 5 15 17

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4 HO 188 *Odyssey* BK I [366-423] 186d 187c  
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[231 419] 231c 233c BK X [210 467] 23 b  
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5 Aeschylus *Suppliants Maidens* 1a 14a c esp  
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[653-791] 34b 35d / *Eumenides* [490-567] 86b  
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5 EURIPIDES *Mece* 212a 224a c esp [627-632]  
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5 A TO 10 NES *Clouds* [882 1104] 499b 502a

6 H ONOTUA *History* BK 1 2d 3d 40c d 47c  
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6 T LCYDIDES *Poloponnesian War* BK III  
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7 PLATO *Phaedrus* 120b-c / *Symposium* 153b  
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9 A ISTOTLE *Ethics* BK II C 1 7-8 352d 354d  
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12 LUCR TIUS *Nature of Things* BK III [1 03  
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12 I PICTELUS *Discourses* BK II CH 10 149d  
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12 AL ELUS *Mediations* BK II SECT 10 257d  
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11 PLUTARCH *Lucullus* 419b-420b / *Dion* 783c  
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15 TACITUS *Annals* BK III 57b 58d K VI  
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231a BK I 264b 265d

18 AL IST VZ *Coffis* BK III par 16 17c d  
BK V par 4 27d 28a BK VI par 18 C 40d  
43a BK VIII par 26-27 60b-c BK X par 40 60

81c 86d / *Christ an Doctrine* BK III CH 13 2  
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10 AQUINAS *Summa Theologica* P RT I Q 9<sup>a</sup>  
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20 AQUINAS *Summa Theologica* PART I II Q 72  
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21 DANTE *Dume Com dy* HELL V VII 7a 10d  
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22 CHAUCER *Troilus and Cressida* BK IV STAVTA  
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son's Tale* par 27 512a 514b par 70-71 534b-  
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23 HOBBS *Leviathan* PART I 62d-63a post m  
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24 RA ELAIS *Gargatua and Pantaruel* BK III  
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25 MONTAIGNE *Essays* 89b 91b 162c 16 a  
238c d 244d 246a 270b 271a 330d 354b  
503b d 517b 519a 534a-c 538a d 541d  
543a e

26 SHAKESPEARE *Titus Andronicus* ACT II SC  
III [89-191] 178d 179d / *Romeo and Juliet*  
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SC II [1 116] 435c-436 ACT II SC IV [138-52]  
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27 SHAKESPEARE *Hamlet* ACT I SC V [12-91]  
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/ *Macbeth* ACT IV SC III [166-100] 304a c  
/ *Antony and Cleopatra* 311a 350d esp ACT II  
SC II [175 245] 320c 321b / *Pericles* ACT I SC I  
[64 142] 422c-423b

29 CERVANTES *Don Quixote* = RT I 120b 137d  
32 MILTON *Paradise Lost* BK II [629-870] 135a  
130 BK V [443 45] 185a BK VIII [500-61]  
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36 SPERNE *Tristram Shandy* 521a b  
38 MONTESQUIEU *Spirits of Law* = BK XVI 117c-d  
119a b

39 SMITH *Wealth of Nations* BK IV 189d 190a  
BK V 346c 347d

40 GIBSON *Decline and Fall* 38a b 70c 71a  
90a = 138d 139b 256c 257a 340b-c 389b-c

41 GIBSON *Decline and Fall* 67c d 166a 16 c  
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42 KANT *Prf Metaphysical Elements of Ethics*  
368d 369a / *Judgement* 586d 587a

43 MILL *Liberty* 303d 307a post m

46 HEGEL *Philosophy of History* INTRO 195b  
199b P T I 233b c PART I 323 c

47 GOETHE *Faust* PART I [2071 2336] 49a 56a  
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245a 276b

49 DRYDEN *Discourse of Poetry* 315c 316a  
50 MARX *Capital* 62b 72c 293c 294a

- 51 Tolstoy *War and Peace* κ ιιι 15b 16 κ ι  
201a κ ι 248b 50 κ ιιι 284 285a  
κ ιι 321d 322d κ ιι 349d 350d  
EPILOGUE I 655c 656b  
52 Dostoevsky *Brothers Karamazov* κ ι 4a d  
κ ιι 38d 39a κ ιιι 50c 62a 69 70a κ ιι  
122d 125c κ ιιι 191b d 235d κ ιι  
370b d 372c 373

53 J. E. P. *Psychology* 800a 805b esp 802b 805b

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Old Testament *Proverbs* 5 6 3 35 7 2 1  
20 1 21 17 23 20-21 27 35 / *Jeremiah* 35—  
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Apocrypha *Ecclesiasticus* 18 30-32 19 1 3  
3 12 31 37 6-31—(D) OT *Ecclesiasticus*  
18 30-32 19 1 3 31 2 42 37 9 34

New Testament *I Corinthians* 6 9 1 / *I Timothy* 3 1-13 / *Titus* 1 5-9 2 *passim* / *Hebrews* 13 4 / *James* 1 12 15 4 1 0 / *I Peter* 1 13 14 2 11 5 8-9 / *II Peter* 2 9-22 / *I John* 2 15 17

5 Eliahu des Hippolytus 225a 235d esp [573  
43] 1228b d / *Ba hante* [370 433] 343a b /  
*Iphigenia at Aulis* [543-589] 429d 430a

7 Plato *Charmides* 7b / *Symposium* 156d  
157a / *Gorgias* 275b 284d / *Republic* κ ι  
416a 427b *passim* / *Law* κ ιι 689 690 /  
*Seventh Letter* 806a 807a

9 Aristotle *Ethics* κ ιι 7 1 [1177 23 4]  
431d 432a κ ιι 8 432d 434 *passim* / *Politics*  
κ ιι 1 6 [1265 8 3] 460 d

12 Lucian *Natural History of Things* κ ιι [1-6]  
15 d κ ιι [1 3 1135] 75c d [1112 1435]  
79b d

18 Augustine *Confessions* κ ιιι par 16 17 d  
κ ιι par 4 27d 8a κ ιιι par 18 20 40d  
41 κ ιιι par 6-27 60b-c κ ιι par 40-6

11 86d / *City of God* κ ιι κ ιιι 172d  
κ ιι κ ιι 511d 513c

10 Aquinas *Summa Theologiae* κ ιι q 95  
a 2 κ ι 3517d 519a

20 Aquinas *Summa Theologiae* κ ιι q 63  
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q 46 a 2 604b d

11 Dante *The Comedy* URGATORY κ ιι  
[5 139] 79b d

23 B. E. *Lectiones* κ ιι 163d 164a  
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30 B. *Ad a cement of Law* 73c d

32 Milt. *Paradise Lost* κ ι [523-543] 310b  
311a κ ιι [581-587] 332a / *Apocalyptic*  
390 b

38 Montaigne *Essays* κ ι 18d κ ιι

40 G. A. *On the Good and Evil* 192b

κ ιι *Find* *Pr* *Metaphysics* f M r l s  
256a b / *Pr* *al* *Re* o 3 7 d / *Pr* *Met*  
p h i / *Elements of Ethics* 366d 367a / *d* *ge*  
*ment* 586d 587a

43 M. *Liberty* 302d 312a p m

51 Tolstoy *War and Peace* κ ιιι 577d 578a  
κ ιιι 605b d

52 Dostoevsky *Brothers Karamazov* κ ιι κ ιι  
164b d κ ιι 370b d

54 Freud *Origin and Development of Psychoanalysis* 20c d / *General Introduction* 587d  
599b d / *Contents* 772  
773d 793a 794a 800c 801a

4 The cultivation of temperance in the training of temperate character

Old Testament *Job* 31 1 / *Proverbs* 6 23 26  
23 20 31 25 16

Apocrypha *Wisdom of Solomon* 8 5-7—(D)  
OT *Book of Wisdom* 8 5-7 / *Ecclesiasticus* 18 30-32 19 1 3 31 2 42 37 9 34

5 21 3 1 31 37-9 31—(D) OT *Ecclesiasticus* 18 30-32 19 1 3 31 2 42 37 9 34

New Testament *Luke* 21 34 / *Romans* 13 13 14 / *I Corinthians* 5 9 13 6 18 1  
7 1-9 9 24 27 / *Galatians* 15 13 6 2 23 /  
1 *Ephesians* 1 5 8 / *Colossians* 3 2 8 / *I Thessalonians* 4 3-5 5 8 / *I Timothy* 6 8 11 / *II Timothy* 2 22 / *Titus* esp 2 11 15 33 6 /  
*James* 1 4 5 0 / *I Peter* 1 13 14 2 11 4 7  
5 8-9 / *I John* 2 15 17

5 Euripides *Iphigenia at Aulis* [543 589] 429d 430a

5 Aristotle *Metaphysics* [1008-1098] 576b 577c

7 Plato *Republic* κ ιι 326 339a *passim* /  
*Symposium* 605d 608d / *Laws* κ ιι 645d  
663d *passim* κ ιι 672d 674d κ ιι 712b  
κ ιι 715b 716a κ ιι 737 738c

9 Aristotle *History of Animals* κ ιι κ ιι  
[581b 1 2] 107b / *Ethics* κ ιι κ ι 1 434b d  
351b κ ιι κ ι 1 [ 935-919] 366a κ  
ιι κ ι [1129 12 24] 377 κ ι κ ι 79b  
1180 33] 434b 435a / *Politics* κ ι κ ι 9  
[1269 1 27 14] 465d-466b κ ι κ ι 1 17  
[ 336 23 24] 541b d κ ι κ ι κ ι 5 [134 4  
b 19] 545 546a

12 E. C. *Deus* κ ι κ ι κ ι 8 161a  
162b κ ι κ ι κ ι 175a 177 κ ι 3 178d  
180a κ ι 187b 188b κ ι 24 5 208b  
210d

12 Aur. *Medicines* κ ι κ ι κ ι 16 254d  
255d

κ ιι *P. U. C. Lycus* 38a 45c / *Lycus*  
*Anna* 61b d 62 / *C. I. C. U.* 174b d 175a

18 Augustin *Confessions* κ ι κ ι par 41b c  
κ ι κ ι par 26-27 60b c

20 Aquinas *Summa Theologiae* κ ι κ ι κ ι 1 1 95  
a 1 226 227c

21 Dante *Divine Comedy* P. U. C. κ ι κ ι κ ι [52  
114] 77b 78a

22 Chaucer *Parson's Tale* par 2 7 535b

25 Montaigne *Essays* 69d 75a *passim* 531 d

26 Sh. *King Henry V* A. T. I. κ ι κ ι [ 2 37]  
533b

30 Baco *Adventures of Leontine* 69d 70a  
78a d 79 80

(4) *The cult of temperance the training of a temperate character*

- 32 MILTON *Paradise Lost* BK VI [27 551] 310b  
311a / *Areopagitica* 385a b  
39 SETH *Health of Nations* BK V 346c 347d  
40 GIBBON *Decline and Fall* 32a b 338d 339c  
449a ■  
42 KANT *Practical Reason* 356a 360d / *Pref*  
*Metaphysical Elements of Ethics* 365b d /  
*Judgment* 586d 587a  
43 MILL *Liberty* 30 b 307a  
51 TOLSTOY *War and Peace* BK V 201a c BK VI  
248b 250a BK VIII 577a 578b  
54 FREUD *Origin and Development of Psycho*  
*Analysis* 16 / *Narcissism* 407b c / *General*  
*Introduction* 573c d 592b 593b / *New Intro*  
*ductory Lectures* 870a ■

5 The social aspects of temperance

5a The temperance of rulers and citizens in temperate conduct as inimical to the common good

- OLD TESTAMENT *Leviticus* 10 8 11 / *Deuteronomy* 17 15 17 21 18 1 / *Psalms* 31 4-5 / *Ecclesiastes* 10 16-17 / *Isaiah* 5 22 23 28 1-9  
56 9-12—(D) *Isaiah* 5 22 23 8 1-9 56 9-12  
/ *Amos* 6  
APOCRYHA *Ecclesiasticus* 47 19 21—(D) OT  
*Ecclesiasticus* 47 2 23  
NEW TESTAMENT *1 Timothy* 3 1 13 / *James* 1 1 3  
5 SOCRATES *Ajax* [105 1070] 152a b  
5 LAMPIDES *Symposium* [938 911] 265d 266b /  
*Ionian Maidens* [452 593] 328a 383a /  
*Iphigenia at Aulis* [543-589] 429d 430a  
5 ISOTOPHONES *Clothes* [882 1104] 499b 502a  
/ *Frog* [1 08 1098] 576b 577c / *Lysistrata*  
[187 425] 588a ■  
6 HERODOTUS *History* BK I 2d 3d BK I 95a  
98a BK VI 222c d BK IX 311b 312d  
6 THUCYDIDES *Peloponnesian War* K VI  
513a d 516c  
7 PLATO *Republic* BK II 318a 319a BK III  
326c 339a BK IV 346a 355a BK VIII 407a  
408a 409d 411d K I 416a 418 / *Critias*  
481a 485b ■ / *Symposium* 605d 608d / *Lysis*  
BK III 669b-671a 672d 676c BK V 679c d  
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255d

- 14 PLUTARCH *Lycurgus* 32a 48d esp 48b c / *Lysander* 361b d / *Agamemnon* 489d 490b / *Alexander* 549d 551c / *Cato the Younger* 621c  
622b / *Cleomenes* 661a d / *Demetrius*  
699c 700a

- 15 TACITUS *Annals* BK III 57b 58d BK VI  
86a b BK XV 166b c / *Histories* BK II 230d  
31a

- 21 DANTE *Divine Comedy* HELL XIV 26d 28b  
PURGATORY XIX XX 81c 85a

- 24 RABELAIS *Gargantua and Pantagruel* BK III  
133b 140b

- 25 MONTAIGNE *Essays* 436c 438b

- 26 SHAKESPEARE *Richard III* ACT III SC VII  
[1 80] 129d 130c / *1st Henry IV* ACT I SC III  
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454c / *2nd Henry IV* ACT IV SC V [97 184]  
495b 496b ACT V SC II [122 145] 499b /  
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- 27 SHAKESPEARE *Troilus and Cressida* ACT V  
SC I 133b 134c SC II [190 197] 136d 137a /  
*Measure for Measure* ACT I SC IV [151-5]  
178b c ACT II SC II [162 187] 183d 184a SC  
IV [1-17] 184c d [111 117] 185d 186c ACT  
III SC II [2 5 296] 192b / *Macbeth* ACT I  
III [1 139] 303b 304d / *Pericles* ACT I III II  
421d 425a

- 38 MONTESQUIEU *Spirit of Laws* BK II ■ 9a c  
BK III 10a 10c 11a BK V 18d 19d 23a b  
BK VI 37d 38b BK VIII 51a 53a BK XII  
94d 95b BK XXIX 262a b

- 30 SMITH *Wealth of Nations* BK II 146a 148c  
149d 150a BK V 346c 347d

- 40 GIBBON *Decline and Fall* 35a 39c passim  
55c 56a 138d 140c passim 256c 257a 338d  
340c 448c-449b

- 43 FEDERALIST NUMBER I 29d 30c NUMBER I  
118 NUMBER 62 190b NUMBER 63 192c d

- 43 MILL *Liberty* 302d 312a passim

- 44 BOSWELL *Johnson* 393a c

- 46 HEGEL *Philosophy of Right* PART III par 18,  
64b d

- 49 D. R. WIN *Descent of Man* 315c 316a 325b  
327a passim

- 4 FREUD *General Introduction* 452c d 573c

5b The temperance of a people luxurious and indulgent the intemperance of the people

- OLD TESTAMENT *Exodus* 16 1 3 / *Numbers*  
11 / *Isaiah* 3 16-26—(D) I 3 16-26,  
*Ezekiel* 7 17 27—(D) *Ezekiel* 7 17 27 /  
*Amos* 6

- 5 LAMPIDES *Symposium* [682-716] 400d 401  
[866-956] 402d 403d

- 6 HERODOTUS *History* BK I 46c d 4 c BK II  
305d 306a 314a ■

- 6 THUCYDIDES *Peloponnesian War* BK I 370a c  
BK II 400c-401a BK III 436c-438b

- 7 PLATO *Republic* BK II 318a 319 BK III  
326c 328b BK IV 342a d BK VIII 408b-411d

- 9 A. TOLLE *Politics* BK II CH 9 [1269b] 13-  
1270 14] 465d 466b

- 14 PLUTARCH *Lycurgus* 32a-48d esp 36b 37b / *Lycurgus Numia* 61b d 64a c esp 62a b / *Agis* 648b d 649b
- 15 TITUS ANNAEUS *Annals* BK III 57b-58d / *Histories* BK I 197d 199b 204b d 206b 210d 212b 213d 214b BK II 222b = 232d 233a 238d 239 BK III 264b 265d BK IV 277c d
- 18 AUGUSTINE *City of God* BK I CH 30-33 147b 149a
- 25 MONTAIGNE *Essays* 54b d
- 26 SHAKESPEARE *2nd Henry VI* ACT IV 56a 64d / *2d Henry VI* ACT I SC III [85 i j] 473d-474a
- 27 SHAKESPEARE *Coriolanus* ACT I SC I [i 2 j] 351a 353d
- 38 MONTESQUIEU *Spirit of Laws* BK III 10a BK V 18d 19d BK VII 44a-47a BK VIII 51a 52c BK XVI 118a b
- 39 SMITH *Wealth of Nations* BK V 346c 347d
- 40 GIBSON *Decline and Fall* 90a c 92 d 216a-c 509b 510d
- 41 GIBSON *Decline and Fall* 94d 397c 398a 551b 552d
- 42 MILL *Representative Government* 329c
- 44 BOSWELL *Johnson* 210d 211b
- 46 HEGEL *Philosophy of History* INTRO 198b 199b PART IV 316c d
- 52 DICKENS *Brothers Karamazov* BK V 164b 165c
- 53 JALUS *Psychology* 719a 720a
- 54 PUND *Psychology* 666 668c p ss m 670d 671 / *Civilization and Its Discontents* 787b
- 5c Laws concerning temperance the extent to which the sphere of temperance can be regulated by law
- OLD TESTAMENT *Exodus* 2 14 7 / *Leviticus* 10 8 11 18a-23 / *Deuteronomy* 5 18, 21 21 8 21 23 7
- NEW TESTAMENT *Matthew* 5 7 28
- 5 EURIPIDES *Bacchantes* [2 5-369] 341d 343a
- 7 PLATO *Gorgias* 283 285a / *Republic* BK V 348a d / *Lysis* BK II 11 643a 663d esp BK I 663b d BK III 675 676b BK VI 708c 709 712b BK VI 713c 716b esp 713 718c 720d BK V I 731d 738c
- 9 ARISTOTLE *Ethics* BK II CH I 348b d 349b p ss m esp [3<sup>b</sup> -6] 349 BK V CH I [29<sup>b</sup> 1 24] 377 BK CH 9 [179 4 8 33] 348a d / *Poetics* BK II CH 9 [1 69 3-127 4] 465d-466b BK VII CH 7 [336 3<sup>b</sup> 24] 541b d
- 14 PLUTARCH *Lycurgus* 32a-48d esp 36b 37b / *Lycurgus Numia* 61b d 62 / *Lysander* 361 d
- 15 TACITUS *Dialogus* I BK 31 BK II 57b 58d
- 20 AQUINAS *Summa Theologiae* Q 96 AA 2 3 231c 233a Q 1 A 2 7 252b 259 A I AN d R = 3 263c 264d Q I 8 A 3 REP I 334a 336b
- 21 DICKENS *Comedy* UNATORY XVI [8, 1 4] 77d 78a

- 25 MONTAIGNE *Essays* 131b 132a
- 27 SHAKESPEARE *Measure for Measure* ACT II 5 [225-70] 181a c ACT III SC II [91 128] 190c d
- 30 HENRY COV *Advancement of Learning* 54 b
- 32 MILTON *Areopagitica* 390 II 393a 395b
- 38 MONTESQUIEU *Spirit of Laws* BK V 18b d 19d BK VII 44d-48a 49 50c BK VI 86b 87c 88a BK V 105 106b BK XVI 119d
- 38 ROUSSEAU *Social Contract* BK IV 434b-435a
- 39 SMITH *Wealth of Nations* BK II 150a BK IV 211a b BK V 346c 347d
- 40 GIBSON *Decline and Fall* 100c 101b
- 41 GIBSON *Decline and Fall* 93d 94
- 42 KANT *Intro Metaphysics of Morals* 383a II 389a b
- 43 CONSTITUTION = THE US AMENDMENTS XV I 19c d XXI 20
- 43 FEDERALIST NO 58 I 58b c
- 43 MILL *Liberty* 292b 293b 302d 312a p ss m esp 309d 310c 314a 316b
- 44 BOSWELL *Johnson* 301c d
- 54 FREUD *Group Psychology* 690b-c

## 6 The extremes of temperance and intemperance

### 6a Asceticism and intemperance

- OLD TESTAMENT *Genesis* 39 7 / *Exodus* 4 8 31 28 / *Numbers* 6 1 / *Judges* 13 1 7 / *I Kings* 9 4 8—(D) III Kings 19 4-8
- NEW TESTAMENT *Matthew* 4 1 11 19 / *Mk* 12 13 / *Luke* 15 17 esp 15 4 1-13 / *I Cor* 10 13 7 36-38 9-24 7 / *I Timothy* 4 1 10
- 5 EURIPIDES *Hippolytus* 225 236d
- 7 PUND *Laws* BK V 737c 738c
- 12 EPICURUS *Discourses* BK II CH 15 190 191a
- 17 PLOTINUS *First Ennead* TR III C I 5 8c 9 CH 7 9c 10a TR IV CH 14 18a c TR VI CH 6 24a-c
- 18 AUGUSTINE *Confessions* BK II par 3 9b BK V I par 26-27 60b c / *City of God* BK CH 6-18 139c 140d / *Christina Doctrina* BK I CH 24 630c 631
- 20 AQUINAS *Summa Theologiae* PART I Q 64 A I R 3 66d 67c PAR II Q 184 A 3 630d 632c A 6 634c 636 Q 186 AA 1-4 650 656b AA 7 8 658d 660a PART III SUP L Q 96 A 5 1055c 1058a
- 22 CHAUCER *Second Nun's Tale* 463b-471b
- 24 RAB LAIS *Gargantua and Pantagruel* BK II 152a d
- 25 MONTAIGNE *Essays* 111a b 120d 121d 163 167 350d 351b 353c 354b 425c-426b
- 26 SHAKESPEARE *Love's Labour's Lost* ACT I SC I [1 16] 254a 256a / *Midsummer Night's Dream* ACT I 5 [67 78] 353
- 29 CE VANT *Dionysius* P T I 81b 91d
- 32 MILTON *Comus* 33 56b c p [59-813] 48a 51b



(6 *The extremes of temperance and temperance* 6a *Asceticism heroic temperance*)

- 33 PASCAL *Provincial Letters* 64b 65b  
 38 MONTESQUIEU *Spirit of Laws* BK V 19a  
 BK VI 38b BK XXV 210a b  
 39 SMITH *Wealth of Nations* BK V 347a d  
 40 GIBBON *Decline and Fall* 191d 193c 338d  
 340c passim 593b d 599a  
 42 KANT *Practical Reason* 327a d  
 44 BOSWELL *John son* 283a  
 46 HEGEL *Philosophy of History* PART I 224b d  
 228b PART IV 340d 341a  
 52 DOSTOEVSKY *Brothers Karama* OF BK IV 85a  
 87b  
 54 FREUD *General Introduction* 624a c / *Civilization and Its Discontents* 773c

6b *The dionysiac spirit the cult of pleasure*

- OLD TESTAMENT *Ecclesiastes* 8 15 / *Isaiah*  
 22 13—(D) *Isaiah* 22 13 / *Amos* 6 3-6  
 APOCRYPHA *Book of Wisdom* 2 esp 2 9—  
 (D) OT *Book of Wisdom* 2 esp 2 9  
 4 HOMER *Odyssey* BK X [210 465] 238b  
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 5 EURIPIDES *Alcestis* [782-802] 244a / *Bacchante* 1340a 352a c / *Cyclops* [139-174] 441c d  
 [492 599] 444d-445d  
 5 ARISTOPHANES *Acharnians* [241-279] 438a b  
 6 HERODOTUS *History* BK II 77a b  
 6 THUCYDIDES *Peloponnesian War* BK II 400d  
 401a  
 7 PLATO *Seneca's Letter* 801b c

- 9 ARISTOTLE *Ethics* BK I CH 5 [1095<sup>b</sup> 11 21]  
 340d BK III CH III [1119 35<sup>b</sup> 19] 366a c BK  
 VII CH 14 [1154<sup>b</sup> 2 15] 405d-406a  
 14 PLUTARCH *Alcibiades* 161d 162b / *Lucullus*  
 419b 420b / *Alexander* 572b-d / *Demetrius*  
 732d 733a 747b / *Antony* 748a 779d ep  
 751b c 755d 756c 757c 758c / *Antony De-*  
*metrius* 780c d / *Dion* 783c 784a  
 15 TACITUS *Annals* BK III 57b 58d BK VI  
 86a b BK XI 103b-c 107b 108b c BK XIV  
 145a d BK XV 166b-c  
 19 AQUINAS *Summa Theologica* PART I Q 18 A  
 2 REP 2 105c 106b  
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 173 A 2 REP 1 3 607a c  
 21 RABELAIS *Gargantua and Pantagruel* BK I  
 7a 8c 60c 66b BK IV 234a 235a  
 25 MONTAIGNE *Essays* 28b d 406a 408b  
 26 SHAKESPEARE *1st Henry VI* ACT I SC II [1  
 116] 435c-436c ACT II SC IV [438-527] 448b-  
 449b / *2nd Henry IV* ACT III SC II [200 251]  
 485d 486a [321 359] 486d-487a  
 40 GIBBON *Decline and Fall* 38a b 60 c  
 649d 650b  
 41 GIBBON *Decline and Fall* 174c 175c  
 42 KANT *Intro Metaphysic of Morals* 387b 388a  
 43 MILL *Utilitarianism* 447b-449c  
 46 HEGEL *Philosophy of History* PART I 228b-c  
 47 COETZEE *Faust* PART I [3835 4222] 93b 103a  
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 334d 335a  
 52 DOSTOEVSKY *Brothers Karama* BK I  
 4a d BK III 46a 82a c passim

## CROSS REFERENCES

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 Temperance in relation to knowledge and to other virtues see COURAGE 4 PRUDENCE 3b 3d VIRTUE AND VICE 1b-1c 2a(1) 3a-3b  
 Other discussions of continence see PRUDENCE 3d VIRTUE AND VICE 1c  
 The consideration of extreme forms of intemperance see DESIRE 7a-7a(3) INFINITY 6a SIN 4c WEALTH 10c(3)  
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 The issue concerning asceticism and self-denial see DESIRE 6b PLEASURE AND PAIN 7b RELIGION 3d VIRTUE AND VICE 8f-8g WEALTH 10c(2)  
 Another consideration of the dionysiac or bacchic spirit see PLEASURE AND PAIN 4d 6b

## -ADDITIONAL READINGS-

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups:

I Works by authors represented in this collection

II Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

### I

- PLUTARCH *Of Curiosity or an Over-Busy Inquisitiveness into Things Impertinent* in *Moralia*  
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 J. BUTLER *Fifteen Sermons upon Human Nature*  
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 HUIZINGA *In the Shadow of Tomorrow*

## Chapter 92 THEOLOGY

### INTRODUCTION

IT has seldom been disputed that the questions with which theology deals are of critical significance for all the rest of human knowledge. Even those who deny that theology is or can be a science might be willing to concede that if it were it would deserve its traditional title "queen of the sciences."

It has been said that the great questions of theology are unanswerable. It has been said that theological dispute or controversy is futile because the issues are not resolvable by argument. But it has rarely been asserted or even implied that our outlook would be unaltered and our actions unaffected if we could know in any degree the answers to questions concerning the existence of the supernatural and its relation to the visible world of nature. To Plato it is of such importance that he asks: "Who can be calm when he is called upon to prove the existence of the gods?"

The main controversy not in but about theology turns on the use of such words as *knowledge* and *science* for a discipline which both in method and conclusion seems compelled to go beyond experience and to push reason in (or even beyond) the limit of its powers. In the minds of many, especially in our day, theology is associated with religion and is opposed to science or, if not opposed, at least is set apart from science as entirely different. Those who conceive science as limited by its empirical methods to the investigation of observable phenomena might not quarrel with the allocation of theology to philosophy but whether or not they did would in turn depend on their conception of philosophy.

As the chapters on SCIENCE and PHILOSOPHY indicate, these two terms are identified through a large part of the western tradition. The various sciences are regarded as branches of philosophy. But we also find a distinction being made

in the 18th century between the empirical and rational or philosophical sciences, and in our day those who regard philosophy as mere speculation or opinion contrast it to the experimental disciplines which are thought to be the only established bodies of knowledge that is sciences.

The question whether theology is a science may therefore embrace a number of alternatives. That it is an empirical or experimental science has seldom been proposed. It may be treated as a science, however, by those who consider it as a part of philosophy or it may be denied that honor precisely because it belongs to philosophy. A third alternative remains—that theology is separate from philosophy, that it is a science as distinct in character from the philosophical sciences as they are from the experimental disciplines. In this third alternative the association of theology with religion or religious faith seems to determine the character of theology.

It is this third alternative which Hume seems to have in mind at the conclusion of his *Enquiry*.

Divinity or Theology, as it proves the existence of a Deity and the immortality of souls

has, he writes, a foundation in *reason* so far as it is supported by experience. But its best and most solid foundation is *faith* or divine revelation. To the extent that its principles come from religious faith, theology does not seem to fit perfectly into Hume's twofold division of the sciences into those which involve abstract reasoning concerning quantity or number and those which involve experimental reasoning concerning matter of fact and existence.

When he says that he would commit to the flames any volume of divinity or school metaphysics which does not contain either of these two kinds of reasoning—for then it can contain nothing but sophistry and illusion—he can hardly be condemning the theology he has

himself described as resting primarily on faith or divine revelation though it may also have some foundation in reasoning from experience

THE DISCUSSION OF THE nature and scope of theology its principles and methods may refer either to the theology which is a part of philosophy or to the theology which is sometimes called dogmatic because it expounds and explains the dogmas of a religious faith Further more those who make the distinction between the two kinds of theology raise questions concerning their relation to one another In so doing they enter into the larger problem of the relation of faith and reason and the limited part which reason can play in the development of a theology which rests on faith

The distinction itself is made by many writers and in diverse ways The theology which is entirely philosophical and independent of any religious faith is usually called natural theology The name sacred theology is given to a body of doctrine which finds its fundamental principles in the articles of a religious faith The ultimate source of these articles of faith in Jewish Christian and Mohammedan theology is the truth revealed in a sacred scripture—the Old and New Testament or the Koran—from which by interpretation the articles of faith are drawn

Bacon for example defines divine philosophy or natural theology as that knowledge or rudiment of knowledge concerning God which may be obtained by the contemplation of his creatures which knowledge may be truly termed divine in respect of the object and natural in respect of the light The bounds of this knowledge are that it suffices to convince atheism but not to inform religion In contrast inspired theology or sacred theology (which in our idiom we call divinity) is grounded only upon the word and oracle of God and not upon the light of nature

Kant makes a similar distinction when he says that theology is based either on reason alone (*theologia rationalis*) or upon revelation (*theologia revelata*) But for Kant natural theology designates only one kind of rational theology Another kind is transcendental theology which differs from the first in the method which reason employs He also differentiates be-

tween speculative and moral theology Though both fall within the sphere of reason one is the work of the pure theoretic reason the other of the pure practical reason

In the opening question of the *Summa Theologiae* Aquinas tries to explain why in addition to the philosophical science built up by reason there should be a sacred science learned through revelation To an objection which claims that there is no need of any further knowledge because philosophical science can attain to knowledge even of God Himself he replies that there is no reason why those things which may be learnt from philosophical science so far as they can be known by natural reason may not also be taught us by another science so far as they fall within revelation Though they may deal with the same object sciences are differentiated according to the various means through which knowledge is obtained Hence the theology included in sacred doctrine differs in kind from that theology which is part of philosophy

In another place Aquinas refers to the theological conclusions which the philosopher thinks he can demonstrate—the existence of God and other like truths about God which can be known by natural reason Of these he says that they are not articles of faith but are preambles to the articles Nevertheless he adds there is nothing to prevent a man who cannot grasp a proof accepting as a matter of faith something which in itself is capable of being scientifically known and demonstrated But such propositions which belong to both reason and faith are only part of sacred doctrine In addition there are the propositions which belong to faith alone

It is impossible Aquinas writes to attain to the knowledge of the Trinity by natural reason The trine nature of the Godhead can not be demonstrated philosophically nor can the dogma be fully comprehended by human understanding In Purgatory Dante learns that Mad is he who hopes that our reason can traverse the infinite way which One Substance in Three Persons holds

Though it is not a theological mystery in the same sense another example of a dogma not demonstrable by reason is the proposition that the world began to be That the world did not

always exist. Aquinas declares we hold by faith alone it cannot be proved demonstratively which is what was said above of the mystery of the Trinity. We find in Sacred Scripture the words *In the beginning God created heaven and earth* in which words the newness of the world is stated and so the newness of the world is known only by revelation.

With respect to such matters as belong to faith alone a theologian like Aquinas cautions against the misuse of reason. When anyone in the endeavor to prove what belongs to faith brings forward arguments which are not cogent he falls under the ridicule of the unbelievers since they suppose that we base ourselves upon such arguments and that we believe on their account. Therefore we must not attempt to establish what is of faith except by authority alone and only to those who accept the authority. For those who do not accept the authority of Scripture the most that reason can do concerning propositions peculiar to faith is to prove that what faith teaches is not impossible. Elsewhere Aquinas points out that although the argument from authority based on human reason is the weakest yet the argument from authority based on divine revelation is the strongest.

THE FOREGOING THROWS some light on Montaigne's defense of a book by Raymond de Sebonde bearing the title *La theologie naturelle*. Though he calls his work natural theology de Sebonde according to Montaigne undertakes by human and natural reasons to establish and make good against the atheists all the articles of the Christian religion. What his opponents reprehend in his work is that Christians are to blame to repose upon human reasons their belief which is only conceived by faith and the particular inspiration of divine grace.

Montaigne agrees that it is faith alone that vividly and certainly comprehends the deep mysteries of our religion. But he also thinks that it is a brave and very laudable attempt to accommodate the natural and human capabilities that God has endowed us with to the service of our faith. It is not to be doubted he says that it is the most noble use we can put them to and that there is no less gain or occupation

more worthy of a Christian man than to make it the aim and end of all of his thoughts and studies to embellish extend and amplify the truth of his belief.

The conception of natural theology which Montaigne appears to entertain in his *Apology* for Raymond de Sebonde does not seem to differentiate it from sacred theology insofar as all its principles are articles of faith. Quite apart from de Sebonde Montaigne himself does not think that the existence of God or the immortality of the soul can be demonstrated by reason. Montaigne observes how short the most constant and firm maintainers of this just and clear persuasion of the immortality of the soul fall and how weak their arguments are when they go about to prove it by human reason. Let us ingenuously confess that God alone has dictated it to us and faith is no lesson of nature and our own reason.

Though the denial of God's existence is according to Montaigne a proposition unnatural and monstrous difficult also and hard to establish in the human understanding he thinks the affirmation to be no less beyond reason's power to establish with certitude for all things produced by our own reasoning and understanding whether true or false are subject to incertitude and controversy.

In this Montaigne differs not only from a theologian like Aquinas who assigns certain truths to natural theology as capable of being demonstrated by reason without the aid of faith but also from such philosophers as Descartes Spinoza and Locke who hold that we can know God by reason with more certainty and even (according to Spinoza) more adequately than we can know most other things.

I have always considered Descartes writes that the two questions respecting God and the Soul were the chief of those that ought to be demonstrated by philosophical rather than theological argument. For although it is quite enough for us faithful ones to accept by means of faith the fact that the human soul does not perish with the body and that God exists it certainly does not seem possible ever to persuade infidels of any religion unless to begin with we prove these two facts by means of the natural reason.

Descartes it appears reserves the use of the

word theology for sacred doctrine. What others like Bacon call natural theology he treats simply as philosophy or that branch of it which he calls metaphysics. Dedicating his *Meditations* to the dean and doctors of the sacred faculty of theology in Paris he says

I have noticed that you along with all the theologians did not only affirm that the existence of God may be proved by the natural reason but also that it may be inferred from the Holy Scriptures that knowledge of Him is much clearer than that which we have of many created things and as a matter of fact is so easy to acquire that those who have it not are culpable in their ignorance.

But Descartes wishes to confess the limitations of the mere philosopher's knowledge of God. When he came to inquire how God may be more easily and certainly known than the things of this world no matter how much certainty and evidence I find in my reasons he could not persuade himself he says that all the world is capable of understanding them. There are not so many in the world who are fitted for metaphysical speculations as there are for those of geometry.

Answering a critic who quotes Aquinas against him he later writes I admit along with all theologians that God cannot be comprehended by the human mind and al- that He cannot be distinctly known by those who try mentally to grasp Him at once in His entirety.

Wherever I have said that God can be clearly and distinctly known I have understood this to apply only to this finite cognition of ours which is proportionate to the diminutive capacity of our minds.

SO FAR WE HAVE considered the distinction between natural and sacred theology—or between philosophy and theology—as it is made in the Christian tradition by writers conscious of the difference between faith and reason or revelation and demonstration. In pagan antiquity there seems to be no equivalent of sacred theology. The various modes of worship which prevailed in the Roman world Gibbon tells us were all considered by the people as equally true by the philosopher as equally false and by the magistrate as equally useful. The superstition of the people was

not embittered by theological rancour nor was it confined by the chains of any speculative system. It was the elegant mythology of Homer he says not reasoning which gave a beautiful and almost a regular form to the polytheism of the ancient world.

Of the Greek philosophers Gibbon remarks that they meditated on the Divine Nature as a very curious and important speculation but only the Stoics and the Platonists endeavored to reconcile the jarring interests of reason and piety. Plato's criticism of the poets in the *Republic* for their impiety and his rational defense of piety in the *Lysis* accompanied by a demonstration of the existence of the gods may be taken as examples of ancient theological discourse within a religious context. Another example and from quite another point of view is Cicero's *De Natura Deorum* which Gibbon praises as the best guide to the opinions of the philosophers concerning the tenets of polytheism.

But neither Cicero nor Plato treats theology as a science. The ancient philosopher who does and who moreover regards theology as the highest of the speculative sciences seems to proceed without reference to or benefit of prevailing religious beliefs. Aristotle dismisses the school of Hesiod and all the theologians [who] thought only of what was plausible to themselves. He refers to the legends of the gods which our forefathers in the most remote ages have handed down to their posterity in the form of a myth with a view to the persuasion of the multitude and to its legal and utilitarian expediency. But the highest science which Aristotle sometimes calls first philosophy he also calls theology. It deals with the immaterial and the insensible the immovable and eternal. We may call it theology he writes since it is obvious that if the divine is present anywhere it is present in things of this sort. In another place he says there are three kinds of theoretical sciences—physics mathematics theology and of these the last named is best for it deals with the highest of existing things.

At the beginning of the *Metaphysics* Aristotle gives another reason for thinking that theology is a divine science not that it is divinely inspired but that having the divine for

its object it is the science most meet for God to have. Such a science either God alone can have or God above all others. The title given the book in which Aristotle attempts to develop this science comes in the later tradition to be the name given to speculation concerning immaterial and insensible substances. What Aristotle calls *theology*, Descartes as we have seen calls *metaphysics* in order to distinguish it from the theology based on revelation.

Whether the theology of a pagan philosopher is commensurable with the theology of Jewish or Christian thinkers even when the latter attempt to be purely philosophical or natural theologians is a question which deeply probes the relation of reason to faith. For even when reason tries to proceed independently of faith the religious faith of a community may tinge the concepts the philosopher uses and define the problems he undertakes to solve. It may be one thing to prove the existence of a Prime Mover and another to know by reason the nature and existence of the God who in the beginning created heaven and earth—the God of Abraham, Isaac, and Jacob, the God of the Christians, whom Pascal distinguishes from the God of the philosophers.

Augustine explains his attitude as a theologian toward the theories of the philosophers touching divine matters. I have not undertaken, he says, to refute all the vain theological opinions of all the philosophers, but only of such of them as agreeing in the belief that there is a divine nature and that this divine nature is concerned about human affairs, do nevertheless deny that the worship of the one unchangeable God is sufficient for the obtaining of a blessed life after death, as well as at the present time. Since Plato defined the wise man as one who imitates, knows, and loves this God and who is rendered blessed through fellowship with Him in His own blessedness, why discuss with the other philosophers? It is evident that none come nearer to us than the Platonists.

Plato according to Augustine is justly preferred to all the other philosophers of the Gentiles, those among his followers who show the greatest acuteness in understanding him, entertain such an idea of God as to admit that in Him are to be found the cause of existence, the

ultimate reason for the understanding, and the end in reference to which the whole life is to be regulated. So amazing to his mind are the parallels between certain insights expressed by Plato and the wisdom of Sacred Scripture that Augustine is almost inclined to believe that

Plato was not ignorant of those writings. But he does not think it necessary to determine whether Plato had acquaintance with the writings of Moses and the prophets, because certain basic truths which were revealed to the Hebrews were made known to the gentiles through the light of nature and reason. That which is known of God, the apostle had said, has been manifested among them, for God hath manifested it to them.

Therefore Augustine feels justified in taking any truth from Plato which is consistent with Christian faith. Aquinas, borrowing much from Aristotle, explains that sacred doctrine makes use of the authority of philosophers in those questions in which they were able to know the truth by natural reason. Sacred theology uses the doctrines of the philosophers, he adds, not as though it stood in need of them, but only in order to make its teaching clearer. It is in this sense that Aquinas calls philosophy the handmaiden of theology.

Others seem to take a different view of this relationship. Montaigne wonders whether it would not be better if the divine doctrine as queen and regent of the rest kept herself apart, and he quotes St. Chrysostom to the effect that philosophy has long been banished from the holy schools as a handmaid altogether useless. Hobbes goes further. He describes the traditional theology as a mingling of Aristotle's metaphysics with Scripture, and claims that the

bringing of the philosophy and doctrine of Aristotle into religion by the Schoolmen caused the many contradictions and absurdities which brought the clergy into a reputation both of ignorance and of fraudulent interpretation, and inclined people to revolt from them.

Hegel however dismisses the criticism that is often made concerning the dependence of Christian theology at least in its formative period on pagan philosophy. The Fathers of the Church and the Councils, he writes, constituted the dogma, but a chief element in its constitution was supplied by the previous de-

velopment of philosophy That certain dogmas were introduced into the Christian religion through the instrumentality of philosophy is not sufficient ground for asserting that they were foreign to Christianity and had nothing to do with it It is a matter of perfect indifference where a thing originated the only question Hegel insists on is Is it true in and for itself? Many think that by pronouncing the doctrine to be Neo Platonist, they have *ipso facto* banished it from Christianity Whether a Christian doctrine stand exactly thus and thus in the Bible is not the only question The Letter kills, the Spirit makes alive

COMPARED WITH SACRED theology the subject matter of natural theology and the scope of its problems seem to be extremely narrow At most it is only a part of philosophy and some writers treat it as no more than one part of metaphysics

Kant for example divides metaphysics into three parts—theology cosmology and psychology—according to his conception of metaphysics as having for the proper object of its inquiries only three grand ideas God Freedom and Immortality As a branch of transcendental speculation theology is concerned primarily with the problem of God's existence Similarly Aristotle's metaphysical inquiries include more than his theology His theology begins only after he has discussed the nature and being of sensible substances It is stated mainly in Book VII of the *Metaphysics* where he considers the existence and character of immaterial substances and of the one purely actual being which is God

Descartes conception seems to be broader for he regards the immortality of the soul as well as the existence and nature of God as being characteristically theological problems even when they are treated in metaphysics and by the methods of the philosopher Because these two problems concern spiritual beings Adam Smith also groups them together under the name pneumatics or pneumatology which he identifies with metaphysics—that part of philosophy most emphasized in the universities of Europe where philosophy was taught only as subservient to theology Bacon alone seems to separate natural theology entirely

from metaphysics which along with physics is for him a part of natural rather than divine philosophy But though he would limit natural theology to that knowledge of God which can be drawn from nature and excludes attempts to induce from nature any verity or persuasion concerning the points of faith he grants that natural as well as divine theology may treat of the nature of angels and spirits as neither inscrutable nor interdicted

The subject matter of sacred theology or what he calls divinity is according to Bacon's account much more extensive He first divides it into matter of belief and matter of service and adoration and from these two derives the four main branches of divinity faith manners liturgy and government The matter of faith contains the doctrine of the nature of God of the attributes of God and of the works of God Under manners Bacon lists the consideration of divine law and the breach of it by sin liturgy concerns the sacraments and rituals of religion government the organization offices and jurisdictions of the church

As its title indicates the *Summa Theologica* of Aquinas endeavors to set forth the sum of theological knowledge In addition to the topics and problems peculiar to sacred doctrine the subject matters treated in the *Summa* seem to represent the whole range of human inquiry—almost co-extensive with the scope of the natural sciences and philosophy both speculative and moral

Aquinas explains the encyclopedic character of the *Summa* by pointing out that to have God as the subject matter of theology means that sacred doctrine treats all things under the aspect of God either because they are God Himself or because they refer to God as their beginning and end The unity of theology in covering so wide a diversity of matters consists in the single formality under which they are considered—the formality of being divinely revealed That is why objects which are the subject matter of different philosophical sciences can yet be treated by this one single sacred science under one aspect namely insofar as they can be included in revelation

Thus for example in the preamble to his Treatise on Man Aquinas writes The theologian considers the nature of man in relation to



the soul but not in relation to the body except insofar as the body has relation to the soul. This emphasis is dictated by the articles of Christian faith which concern man in both body and soul. Similarly with respect to moral matters Aquinas explains that the theologian considers human acts inasmuch as man is there by directed to happiness and he takes account of the circumstances of human acts because they may excuse from sin the consideration of which belongs to the theologian. It belongs to the theologian only when sin is conceived as an offense against God but to the moral philosophers when it is conceived as something contrary to reason.

It appears from the foregoing that sacred theology is both speculative and practical (or moral). It deals with the nature of divine things and with human acts but with the latter only so far as they have God for their rule or end. Although among the philosophical sciences Aquinas writes some are speculative and others practical sacred doctrine includes both.

Even though it is made on the level of the philosophical sciences Kant's distinction between speculative and moral theology seems to be based on a different principle. For Aquinas the speculative and the practical parts of theology deal with different problems such as God, the Trinity, creation and the angels on the one hand and beatitude, the virtue, divine law, sin, grace and sacraments on the other. But for Kant both speculative and moral theology deal with the problem of God's existence. They differ only according to the manner in which the theoretic and the practical reason undertake to solve this problem.

All attempts of reason to establish a theology by the aid of speculation alone are fruitless writes Kant. Consequently a rational theology can have no existence unless it is founded upon the laws of morality. The postulates of pure practical reason—of immortality, free will and the existence of God—all proceed from the principle of morality which is not a postulate but a law by which reason determines the will directly. The moral law involves as a necessary condition of existence of the *summum bonum* and that in turn in-

volves the supposition of the supreme independent good that is the existence of God.

According to Kant a Supreme Being is to the speculative reason a mere ideal though faultless one—a conception which perfects and crowns the system of human cognition but the objective reality of which can neither be proved nor disproved by pure reason. It is this defect which moral theology remedies. We must assume he says a moral world cause that is an Author of the world if we are to set before ourselves a final end in conformity to the moral law. But he adds this moral argument is not intended to supply an objectively valid proof of the existence of God. It is not meant to demonstrate to the skeptic that there is a God but that he must adopt the assumption of this proposition as a maxim of his practical reason if he wishes to think in a manner consistent with morality.

THE PROBLEM OF THE proof of God's existence though central in theology is more fully discussed in the chapter on God. Here we are concerned with the nature of theology itself as a branch of learning or inquiry. Since the chapter on METAPHYSICS necessarily touches on theology as a philosophical discipline it seems advisable to devote attention here to some of the things which are peculiarly the concern of sacred theology.

Heresy is one of these. A scientist or philosopher may be criticized for his errors but only a theologian only the man who tries to explain some article of faith can be called a heretic in the strict sense of that word. According to his view of the relation between church and state Hobbes defines heresy in political terms.

Heresy he writes is nothing else but a private opinion obstinately maintained contrary to the opinion which the Public Person—i.e. the Sovereign—has commanded to be taught. But according to Pascal none but God was able to instruct the Church in the faith and so it is heresy to resist the decisions of the faith because this amounts to an opposing of our own spirit to the Spirit of God. But he adds it is no heresy though it may be an act of presumption to disbelieve certain particular facts because this is no more than opposing reason—it may be enlightened reason—

to an authority which is great indeed but in this matter is not infallible

The aspect of choice of obstinately prefer one's own opinion against a superior authority is emphasized by Aquinas but he adds the specification that heresy is a corruption of Christian faith a species of unbelief in which the heretic defies the authority of the Church choosing not what Christ really taught but the suggestions of his own mind He quotes a statement by Augustine that we should not accuse of heresy those who however false and perverse their opinion may be defend it without obstinate fervor and are ready to mend their opinion when they have found the truth because they do not make a choice in contradiction to the doctrine of the Church It is not the falsity of the opinion which makes it heresy for until the point of faith has been defined by the authority of the Church theologians may differ and even be in error without being heretical

The inference may be drawn that progress is made in the refinement and precision of theological doctrine as the dogmas of a religion are more fully stated and the line between orthodoxy and heresy becomes more clearly defined Augustine who is one of the great formative theologians for the Protestant as well as the Catholic tradition devotes a large part of his writing to the criticism of heresies—the great Arian heresy concerning the Trinity the Nestorian or Monophysite heresy concerning the Incarnation the Manichean heresy concerning the existence of evil and the Pelagian heresy concerning grace and good works

While the hot restlessness of heretics Augustine writes starts questions about many articles of the Catholic faith the necessity of defending them forces us to investigate them more accurately to understand them more clearly and to proclaim them more earnestly and the question mooted by an adversary becomes the occasion of instruction According to Aquinas the profit that ensues from heresy is beside the intention of heretics for it consists in the constancy of the faithful being put to the test and makes us shake off our sluggishness and search the Scriptures more carefully

To Augustine and Aquinas theological argu-

ment and controversy seem to be serviceable in the propagation and defense of the faith Aquinas for example distinguishes the various types of dispute in which a Christian theologian can engage—with heretics with Jews with infidels We can argue with heretics from texts in Holy Scripture he writes and against those who deny one article of faith we can argue from another If our opponent believes nothing of divine revelation there is no longer any means of proving the articles of faith by argument but only of answering his objections—if he has any—against faith

But it is necessary to add the qualification that the reasons employed to prove things that are of faith are not demonstrations they are either persuasive arguments showing that what is proposed by faith is not impossible or else they are proofs drawn from the principles of faith i.e. from the authority of Holy Writ

Whatever is based on these principles is as well proved in the eyes of the faithful as a conclusion drawn from self-evident principles is in the eyes of all

Furthermore Aquinas points out since faith rests upon infallible truth and since the contrary of a truth can never be demonstrated it is clear that the proofs brought against faith are not demonstrations but arguments that can be answered Descartes seems to hold a similar view Defending his opinions in a letter to Father Dinet he declares As to theology as one truth can never be contrary to another it would be a kind of impiety to fear that the truths discovered in philosophy were contrary to those of the true Faith

A somewhat contrary view of the relation of faith and reason seems to be taken by Locke

Whatever God hath revealed he says is certainly true no doubt can be made of it This is the proper object of faith but whether it be a divine revelation or no reason must judge Reason not faith is the ultimate test of truth in theology as in philosophy Reason must be our last judge and guide in everything If reason finds something to be revealed from God reason then declares for it as much as for any other truth and makes it one of her dictates

In many of the great books we find a less

favorable view of the merit or profit in theological controversy. Its excesses and mumbo jumbo are travestied and caricatured by Rabelais and Sterne; its futility and folly are the subject of bitter complaint by Hobbes and Bacon; its intolerance is condemned by Locke and Mill; Gibbon, who reports the disputes which raged through ten centuries of Christendom, seldom speaks kindly of the disputants. He refers to the exquisite rancor of theological hatred and in describing the fury of the conflict between the Arians and the defenders of the Nicene creed, he says that "in the midsts of their fierce contentions they easily forgot the doubt which is recommended by philosophy, and the submission which is enjoined by religion."

In the Middle Ages mystical theologians like Peter Damiani or Bernard of Clairvaux attack as impious or irreligious the kind of theology which borrows from the philosophers and makes use of the liberal arts, especially the techniques of the dialectician. In similar vein

Protestant reformers like Luther later attack theology itself as detrimental to the purity of Christian faith and the spirit of religion. It is in this vein also that Bacon deploras the unprofitable subtlety or curiosity and the fruitless speculation or controversy in divinity and speaks of the extreme prejudice which both religion and philosophy have received and may receive by being commixed together.

When the Student in *Faust* says "I'm now almost inclined to try Theology," Mephistopheles replies:

I would not wish to lead you so astray  
In what this science touches, it would be  
So hard to shun the false, misleading way  
So much of hidden poison lies therein  
You scarce can tell it from its modicum

That, however, is the voice of the devil and from the point of view of those who see no conflict between faith and reason or between piety and inquiry, the attempt to separate religion from theology often looks diabolical.

## OUTLINE OF TOPICS

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  - 4a The relation of sacred theology to philosophy; theology as the queen of the sciences
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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HORER *Mad* BK I [26, 83] 12d the number 4 is the number of the volume in the set, the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTION.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Phology* 116 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left-hand side of the page, the letters c and d to the upper and lower halves of the right-hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins on the lower half of the left-hand side of page 163 and ends in the upper half of the right-hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART BK CHS CR) are sometimes included in the reference line numbers in brackets as given in certain cases e.g. *Mad* K I [65 283] 12d.

**BIBLE REFERENCES.** The references are to book, chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay version indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7-45—(D) *II Esdras* 7-46.

**SYMBOLS.** The abbreviation esp calls the reader's attention to one or more especially relevant parts of which reference is made. It signifies that the topic is discussed intermittently rather than continuously in the whole or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Guide Ideas* consult the Preface.

- 1 The subject matter of theology: the scope of inquiry the nature of its problems

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8 ARISTOTLE *Metaphysics* BK I CH 2 [982b 8-983 11] 501a b BK VI CH I 547b d 548c e p [66-33] 548a c BK XI CH 7 [164 28 13] 592d 593a

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10 AQUINAS *Summa Theologiae* PART I Q I 3 10 Q 75 REA E 378a b Q 84 AMBLE 440b d PART Q 7 A 2 ANS 2 d P 3 652d 653c

20 AQUINAS *Summa Theologiae* PART I I Q 71 A 6 R 5 110b 111b Q I A 4 ANS 354 355d

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31 DRYDEN *Discourse* PART 43c

33 PASCAL *Vicinity* 355b-356b

35 HUMPHREY *Human Understanding* TX DIV 132 509c

39 SETH *Hebrew Faith* K V 336b 337a

42 KANT *Pure Reason* 33 d 119a c 176 c

190a c 236b 240b esp 239 240b / *Practical Reason* 349a 352c esp 350c 351a / *Judgement* 378 b

- 2 The distinction between natural and sacred theology: its relation to the distinction between reason and faith

18 AUGUSTINE *City of God* K VII P R 3 7 47c 52c / *City of God* K VIII CH I 264b d 273a BK XI CH 2 323a / *Christian Doctrine* K II CH 4 655b 656 CH 4 656 d

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25 MONTAGNE *Essays* 208a 209 212 d 238d 239

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- ( The distinction between natural and sacred theology its relation to the distinction between reason and faith )

- 32 MILTON *Paradise Lost* bk xii [552-587] 331a 332a  
 33 PASCAL *Pensées* 245 218b 265 290 221b 225a 543 266a 561-563 272b 273a  
 35 LOCKE *Human Understanding* bk iii ch ix sect 23 291b-c bk iv ch xvii sect 23 24 380b d ch xviii 380d 384b passim ch xix sect 14 387d 388a  
 35 HUME *Human Understanding* sect xii div 132 509c  
 40 GIBBON *Decline and Fall* 307a 309d esp 308c 309a 346b c  
 42 KANT *Practical Reason* 346b-347a 349a 352c esp 350c 351a 353a 354d / *Judgement* 599d 600a 603b d 604d 606d esp 606a d 607d 609b  
 43 MILL *Utilitarianism* 455a c  
 51 TOLSTOY *War and Peace* bk v 196a 197c

### 3 Theology as a philosophical discipline

- 3a Natural theology in relation to other parts of philosophy *philosophia prima* metaphysics natural philosophy

- 7 PLATO *Republic* bk vii 388a 398c esp 389b 391b 397a 398c / *Timaeus* 442a-477a c esp 447a-453c 455a-457b 475d-477a c  
 8 ARISTOTLE *Physics* k i ch 9 [ 92 33 b2] 268c d bk ii ch 2 [194<sup>b</sup>9-15] 271a ch 7 [198 22 3] 275b c / *Heavenly Bodies* bk i ch 1 [298<sup>b</sup>13 24] 390a b / *Metaphysics* bk i ch 1 499a 501c esp ch 2 [982<sup>b</sup>28-983 11] 501a b bk vi ch 1 [1026 6-33] 548a c bk xi ch 7 [1004 28 b13] 592d 593a  
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 42 KANT *Pure Reason* 33a d 119a c 176a-c 190c 236b 240b sp 239a 240b / *Practical Reason* 349 352c esp 350c 352 / *Judgement* 603d 613a c esp 606d 607c  
 40 HUME *Philosophy of History* PART IV 368d 369 c

- 3b The distinction between speculative and moral theology theology as a work of the practical reason

- 4 KANT *Pure Reason* 236b 240b esp 239 240b / *Practical Reason* 291a 296d 349a 352c esp 350c 351a / *Judgement* 588a 613a c esp 588a

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- 3c The limitations of speculative theology the insoluble mysteries or antinomies

- 8 ARISTOTLE *Metaphysics* bk i ch 2 [98 2<sup>b</sup>2-983 11] 501a b  
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- 4 Sacred theology faith seeking understanding

- 4a The relation of sacred theology to philosophy theology as the queen of the sciences

- 18 AUGUSTINE *Confessions* bk vii par 13 27 47c 52c / *City of God* bk viii ch 1 12 264b d 273a bk xi ch 2 323a c / *City of God* bk xi ch 40 655b 656a ch 43 656c d  
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## I Works by authors represented in this collection

## II Works by authors not represented in this collection

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## Chapter 93 TIME

### INTRODUCTION

**D**EVOURING Time      wasteful Time  
this bloody tyrant Time —Time is the  
predatory villain with whom not only the lover  
but all men must contend The sonnets of  
Shakespeare make war upon Time's tyranny—  
to stay Time's scythe to preserve whatever  
of value can be kept from the wastes of time  
and to prove that Love's not Time's fool  
entirely

Yet viewing the almost universal depre-  
dations of Time the poet fears that love may  
not escape Time's ruin

When I have seen by Time's fell hand defaced  
The rich proud coat of our orn'ed age  
When sometime lofty towers I see down-raded  
And brass eternal slave to mortal rage  
When I have seen the hungry ocean gain  
Advantage on the kingdom of the shore  
And the firm soil win of the waters' main  
Increasing store with loss and loss with store  
When I have seen such interchange of state  
Or state itself confounded to decay  
Ruin hath taught me thus to ruminate  
That Time will come and take my love away  
This thought is as a death which I cannot choose  
But weep to have that which it fears to lose

The lover knows that he cannot save his love  
from change and her beauty from decay Time  
is too much for him But when the lover is also  
a poet he may hope to defeat Time not by  
making his love last forever but by making the  
memory of it immortal Do thy worst old  
Time he can say despite thy wrong My  
love shall in my verse ever live young Or  
again

Since brass, nor stone, nor earth, nor boundless sea  
But sad mortality o'erthrows the pole  
How with this rage shall beauty hold a plea  
Whence act is not on earth or sea?  
O how shall my sun's breath hold out  
Against the wreckful edge of battering days  
When rocks impregnable are not so stout  
Nor gates of steel so strong but Time decays?

O fearful meditation! where a lack  
Shall Time's best jewel from Time's chest be bad?  
Or what strong hand can hold his swift foot back?  
Or who his spoil of beauty can forbid?

O none unless this miracle have might  
That in black ink my love may still shine bright.

But the poet may have the cast of a theolo-  
gian rather than a lover He may as Milton  
does stand not in awe or fear but in contempt  
of Time willing to wait while Time runs out its  
race Milton bids Time

glut thyself with what thy orb devours  
Which is no more than what is false and vain  
And merely mortal dross  
So little is our loss  
So little is thy gain  
For when as each thing bad thou hast entomb'd  
And last of all thy greedy self consumed  
Then long Eternity shall greet our bliss  
With an individual kiss  
The while all this Earthly grossness quit  
Atturd with Stars we shall receive our sit  
Triumph over Death and Chance and then  
O Time

A philosopher like Marcus Aurelius neither  
defies nor despises time He enjoins himself to  
accept the mutability of all things as fitting  
and suitable to universal nature Does  
thou not see he asks himself that for thine  
also to change is just the same and equally  
necessary for the universal nature? To him it  
seems no evil for things to undergo change  
nor is he oppressed by the image of Time as a  
river made up of the events which happen and  
a violent stream for as soon as a thing has been  
seen it is carried away and another comes in  
its place and this will be carried away too

For man to resign himself in time's passage  
Pascal thinks requires no special effort Our  
nature consists in motion He says complete  
rest is death Time fits our nature not only  
because it heals griefs and quarrels but be-  
cause time's perpetual flow washes away the

desperate ennui men suffer when they feel themselves imprisoned in the present

Just as we seek and multiply diversions as means to escape from ourselves so according to Pascal when we are dissatisfied with the present we anticipate the future as too slow in coming or we recall the past to stop its too rapid flight. For the present is generally painful to us. Let each one examine his thoughts, and he will find them all occupied with the past and the future. The past and present are our means the future alone is our end. So we never live but we hope to live and as we are always preparing to be happy it is inevitable we should never be so.

THESE ARE ONLY SOME of the conflicting attitudes toward time and mutability which express man's desire for permanence for the eternity of a now that stands still or his restless weariness his avidity for the novelties time holds in store. Wherever in the great books of poetry philosophy or history men reflect upon their loves and aspirations their knowledge and their institutions they face man's temporality. It is not that man alone of earthly things has a time-ridden existence but that his memory and imagination enable him to encompass time and so save him from being merely rooted in it. Man not only reaches out to the past and future but he also sometimes lifts himself above the whole of time by conceiving the eternal and the immutable.

Man's apprehension of the past and future is discussed in the chapter on MEMORY AND IMAGINATION. The bent of his mind or his striving toward the unchanging the everlasting the eternal is considered in the chapter on CHANGE. Here we are concerned with his examination of time itself.

Though the idea of time is traditionally linked with that of space it seems to be much more difficult to grasp. In addition to provoking opposite emotion from the poets it seems to engage the philosophers in a dispute about its intelligibility. This goes deeper than conflicting definitions or analyses such as occur in the discussion of both space and time. Whereas time seems no less clear than space to some thinkers to others it is irremediably obscure. Struggling to say what it is and how it exists

they are exasperated by its evanescence as an object of thought.

Aristotle indicates some initial difficulties in the consideration of time. It is not itself a movement yet neither does time exist without change. Time is neither movement nor independent of movement. Furthermore according to Aristotle time is a continuous quantity. Time past present and future forms a continuous whole. But the very nature of a continuous quantity is to be divisible. The present moment however—the now which is the link of time and the dividing line between past and future—seems to be an indivisible instant.

If the present had an extended duration Aristotle points out it would have to include parts some of which would be past and some future. Hence though the present seems to be a part of time it is unlike the rest of time indivisible and though it separates past and future yet it must also somehow belong to both for otherwise time would not be continuous.

The now is an end and a beginning of time; not of the same time however but the end of that which is past and the beginning of that which is to come.

If we conceive of some point of time which cannot be divided into even the minutest parts of moments Augustine writes that is the only point that can be called the present and that point flees at such lightning speed from being future to being past that it has no extent of duration at all. Only past time and future time can be called long or short. Only they have duration. But in what sense Augustine asks can that which does not exist be long or short? The past no longer is the future is not yet.

The past and future it seems have duration or at least extent but no existence. The present exists but does not endure. What then is time? If no one asks me Augustine says I know. If I want to explain it to a questioner I do not know. All the words with which we speak of time and times are the plainest and commonest of words yet again they are profoundly obscure and their meaning remains to be discovered.

Augustine returns again and again to the point that we measure time *non est pars*. But he says if you ask me how I know this my answer is that I know it because we measure

time and we cannot measure what does not exist and the past and future do not exist. But how do we measure time present since it has no extent and where does time come from and by what way does it pass and where does it go to while we are measuring it? Where is it from?—obviously from the future. By what way does it pass?—by the present. Where does it go?—into the past. In other words it passes from that which does not exist by way of that which lacks extension into that which is no longer.

The more he reflects on time and its measurement the more Augustine is perplexed. The more he is forced to say: "I still do not know what time is." He realizes that he has been talking of time for a long time and this long time would not be a long time unless time has passed. But how do I know this since I do not know what time is? It seems to him true that we measure time and yet he must say: "I do not know what I am measuring." It seems to him that time is certainly extendedness—but he must add: "I do not know what it is extendedness of."

Berkeley suggests that the difficulties in understanding time may be of our own making. Bid your servant meet you at such a *time* in such a place and he shall never stay to deliberate on the meaning of those words. But if *time* be taken exclusive of all those particular actions and ideas that diversify the day merely for the continuation of existence or duration in the abstract then it will perhaps gravel even a philosopher to comprehend it.

For my own part Berkeley goes on to say: whenever I attempt to frame a simple idea of *time* abstracted from the succession of ideas in my own mind which flows uniformly and is participated by all beings I am lost and embroiled in inextricable difficulties. I have no notion of it at all.

To those who conceive time as a mathematical magnitude or as a physical dimension there seems to be no difficulty about its definition or a precise statement of its properties. So considered time appears to be no less intelligible than space for when it is so considered it is being treated exactly like space—not as a property of things not as relative to bodies or their

motions but as an extensive manifold capable of being occupied by things and in which they exist and move.

As in what Einstein calls the four-dimensional space-time continuum (which comprises three space coordinates and one time coordinate) time is merely one dimension among others so in Newton's theory time and space are also given parallel treatment. Times and spaces, Newton writes, are as it were the places as well of themselves as of all other things. All things are placed in time as to order of succession and in space as to order of situation. Einstein criticizes Newtonian mechanics for its habit of treating time as an independent continuum yet Newton no less than Einstein appears to conceive time and space alike as dimensions even if he conceives them in separation from one another.

But if time and space are something to be occupied or filled they can also be thought of as unoccupied or empty. The opposition discussed in the chapter on SPACE between those who think of space in itself as empty and those who deny a void or vacuum seems to be paralleled here by the issue concerning empty time—time apart from all change or motion, time in itself. Waiving for the moment the question whether such time exists or is only a mathematical abstraction we can see that this time may be more susceptible to analysis than the time of ordinary experience, the time which according to Lucretius no one feels by itself abstracted from the motion and calm rest of things.

Newton explains that he does not define time, space, place and motion because they are well known to all. But he observes that men commonly conceive these quantities under no other notions but from the relation they bear to sensible objects. He finds it necessary therefore to distinguish each of them into absolute and relative, true and apparent, mathematical and common.

By absolute true and mathematical time Newton means that which of itself and from its own nature flows equally without relation to anything external and by another name is called duration. In contrast relative apparent and common time is some sensible and external (whether accurate or unequal) measure of duration by the means of motion which

is commonly used instead of true time such as an hour a day a month a year In astronomy Newton points out absolute time is distinguished from relative by the equation or correction of the apparent time For the natural days are truly unequal though they are commonly considered as equal and used for measures of time astronomers correct this inequality that they may measure the celestial motions by a more accurate time.

Newton seems to be saying that time measures motion and also that it is measured by it If his distinction between absolute and relative time is ignored his theory of time does not appear to be very different from that of Aristotle who says not only do we measure the movement by the time but also the time by the movement Insofar as movement or change involves a sequence in which one part comes after another time measures it by numbering the *before*s and *after*s But we also judge the length of the time according to the duration of the movement and in this sense the movement measures time

As both Aristotle and Augustine point out time measures rest as well as motion for in Aristotle's words all rest is in time Time is not motion but the number of motion and what is at rest can be in the number of motion Not everything that is not in motion can be said to be at rest—but only that which can be moved though it actually is not moved

But where Aristotle in defining time as the measure of motion or rest makes time an attribute of movement Newton regards absolute time as the perfect measure of motion precisely because its nature is independent of all physical change Only relative time depends on motion and that is the time which is measured by motion not the measure of it Those who confound real quantities with their relations and sensible measures Newton declares defile the purity of mathematical and philosophical truths

Distinguishing between duration and time Locke expresses in another way the difference between Newton and Aristotle Time for Locke is that portion of duration which consists of definite periods and is measured by the motion of bodies We must therefore carefully distinguish between duration itself and the meas-

ures we make use of to judge its length Duration in itself is to be considered as going on in one constant equal uniform course but none of the measures which we make use of can be known to do so It seems wrong to Locke to define time as the measure of motion when, on the contrary it is motion—the motion of the great and visible bodies of the world—which measures time

What Locke calls duration seems to be the same as Newton's absolute time It is in no way relative to the existence of bodies or motion Just as space or as he calls it expansion is not limited by matter so duration is not limited by motion As place is that portion of infinite space which is possessed by and comprehended within the material world and is thereby distinguished from the rest of expansion so time is so much of infinite duration as is measured by and coexistent with the existence and motions of the great bodies of the universe

MANY ISSUES ARE RAISED by absolute time or infinite duration conceived as independent of all bodily motions Einstein for example challenges the classical notion of simultaneity according to which two events taking place a great distance from one another are said to occur *at the same time* that is at the same moment in the absolute flow of time

Before the advent of the theory of relativity he writes it had always been tacitly assumed in physics that the statement of time had an absolute significance *i.e.* that it is independent of the state of motion of the body of reference But if the world of physical events is a four dimensional manifold in which the time coordinate is always associated with the space coordinates for any reference-body under observation then every reference body (coordinate system) has its own particular time and Einstein adds unless we are told the reference body to which the statement of time refers there is no meaning in a statement of the time of an event

There is also the issue of the emptiness of that part of absolute time or infinite duration which comes before or after the existence of the world comparable to the issue concerning the void or empty space beyond the borders of the material universe Those who regard time as

relative to and inseparable from motion deny the possibility of such empty time

For Plato as for Christian theologians like Augustine and Aquinas time itself is created with the creation of the heavenly bodies and their motions. As the story of the world's becoming is told in the *Timaeus* the maker resolved to have a moving image of eternity and when he set in order the heaven he made this image eternal but moving, according to number while eternity itself rests in unity and thus image we call time. Time then and the heaven came into being at the same instant.

Augustine undertakes to answer those who agree that God is the Creator of the world but have difficulties about the time of its creation. He asserts that there is no time before the world. For if eternity and time are rightly distinguished by this that time does not exist without some movement and transition while in eternity there is no change who does not see that there could have been no time had not some creature been made which by some motion could give birth to change. I do not see Augustine continues how God can be said to have created the world after spaces of time had elapsed unless it be said that prior to the world there was some creature by whose movement time could pass. But the existence of a creature prior to creation is impossible. Hence Augustine concludes that if in the world's creation change and motion were created then the world and time were simultaneously created.

Though the existence of a creature prior to creation is impossible it is not impossible according to Aquinas for the created world to be coeval with its Creator. While he rejects the opinion of those who assert that the world now exists without any dependence on God and who deny that it was ever made by God he entertains as possible the view that the world has a beginning not of time but of creation. Those who hold this view he explains mean that it was always made. For just as if a foot were always in the dust from eternity there would always be a footprint which without doubt was caused by him who trod on it so also the world always was because its Maker always existed.

It does not necessarily follow Aquinas ad-

mits that if God is the active cause of the world He must be prior to the world in duration because creation by which He produced the world is not a successive change. But Aquinas does not think that the question whether the world and time began with creation or has always co-existed with its Creator can be resolved by reason. The newness of the world he says is known only by revelation.

That the world did not always exist we hold by faith alone it cannot be proved demonstratively. In saying this he is not unmindful of the fact that Aristotle advances arguments to show that there can be no beginning in either time or motion. Since time cannot exist and is unthinkable apart from the moment and the moment is a kind of middle point uniting as it does in itself both a beginning of future time and an end of past time it follows that there must always be time. But if this is true of time it is evident that it must also be true of motion time being an attribute of motion.

With one exception all his predecessors according to Aristotle are in agreement that time is uncreated. In fact he says it is just this that enables Democritus to show that all things cannot have had a becoming. Plato alone asserts the creation of time saying that it had a becoming together with the universe. But Aristotle's own arguments for the eternity of time and motion do not seem to Aquinas to be absolutely demonstrative but only relatively so—*vi* as against the arguments of some of the ancients who asserted that the world began to be in some actually impossible ways. As for the present moment or the *now* of time always requiring something which comes *before* as well as *after* Aquinas admits that time cannot be made except according to some *now* yet not because there is time in the first *now* but because from it time begins.

The position of Aquinas that arguments for the initiation or the endlessness of time are only dialectical seems to be confirmed by Kant in the Transcendental Dialectic of the *Critique of Pure Reason*. Kant sets forth as one of the cosmological antinomies the opposed arguments for the beginning of the world and for a world without beginning. The reasoning on either side being equal in its appearance of cogency nei-

ther conclusion according to Kant is genuinely demonstrated

But those who like Newton and Locke separate absolute time or infinite duration from the existence of a world in motion seem to be unaffected by arguments which concern only the time of the material world the time that is relative to motion For them absolute or infinite time is eternity It may be empty of motion but it is filled with God's everlasting being Though we make duration boundless as certainly it is Locke writes we cannot yet extend it beyond all being God every one easily allows fills eternity God is not eternity says Newton but He is eternal His duration reaches from eternity to eternity He endures forever and is everywhere present and by existing always and everywhere He constitutes duration and space

The issue is again brought into focus by the denial that God's eternity can be identified with infinite or absolute time Even supposing that the world always was Aquinas writes it would not be eternal in the sense in which God is for the divine being is all being simultaneously without succession He distinguishes the *now* that stands still as the eternal present from the continually shifting *now* in the flow of time's passing moments For him God's everlasting being does not endure through endless time but rather exists unchanging in the eternal present As eternity is the proper measure of being so time is the proper measure of movement and hence Aquinas writes according as any being recedes from permanence in being and is subject to change it recedes from eternity and is subject to time

THE TWO MEANINGS OF eternity—infinite time and utter timelessness—are discussed in the chapter on ETERNITY The distinction between time and eternity which is considered both there and here seems to be understood differently by those who contrast timelessness with temporality and by those who equate eternity with endless time For the latter the point of difference between eternity and time seems to be only one of infinite as opposed to limited duration Yet as we have just observed writers like Newton and Locke also distinguish absolute or infinite time (such they tend to iden-

tify with eternity) from definite periods or limited spans of time by making the one independent of the other relative to and measured by motion

The question remains whether absolute time is real time or only a mathematical abstraction whether it exists apart from perceived time—the experienced duration of observable motions or the elapsed time of events in succession

Considering this question Kant says that those who maintain the absolute reality of time and space whether as essentially subsisting or only inhering as modifications in things must find themselves at utter variance with the principles of experience itself For if they decide for the first view and make space and time into substances thus being the side taken by mathematical natural philosophers they must admit two self-subsisting nonentities infinite and eternal which exist (yet without their being anything real) for the purpose of containing in themselves everything that is real If they adopt the second view of inherence which is preferred by some metaphysical natural philosophers and regard space and time as relations abstracted from experience they find themselves in that case necessitated to deny the validity of mathematical doctrine *a priori* in reference to real things

On Kant's own view the synthetic judgments of mathematics can have the apodictic certainty of *a priori* propositions only if space and time are themselves *a priori* forms of intuition As the *a priori* form of space makes possible the pure science of geometry according to Kant so the *a priori* form of time makes possible the pure science of numbers *i.e.* arithmetic But whereas space as the pure form of external intuition is limited to external phenomena alone time as the form of the internal sense is for Kant the formal condition *a priori* of all phenomena whatsoever

Without sharing Kant's theory of *a priori* forms of intuition or of the foundations of pure mathematics other writers appear to agree to some extent with his denial of independent reality to time Aristotle raises the question whether if soul did not exist time would exist or not He thinks the question may be fairly asked because if there cannot be someone to count there cannot be anything that can be

counted so that evidently there cannot be number—for number is the counted or the countable. But if nothing but soul or in soul reason is qualified to count there would not be time unless there were soul. Yet Aristotle qualifies this somewhat by adding that *if no event* can exist without soul and the before and after are attributes of movement, time may exist as these *qua* numerable.

Augustine takes a less qualified position. Asking what it is that time is, the extendedness of it, he answers, Probably of the mind itself. Insisting that neither future nor past time can be measured because neither exists, Augustine concludes that it is only passing time we can measure and that we can measure it only in the mind. It is in you. O my mind, he says, that I measure time. What I measure is the impress produced in you by things as they pass and abiding in you when they have passed. I do not measure the things themselves whose passage produced the impress; it is the impress that I measure when I measure time.

Yet William James, while giving a similar analysis of our experience of time, insists that time is objective as well as subjective. Time and space relations, he writes, are impressed from without. The time and space in which the objects of our thought exist exist as independently of the mind as do those objects themselves. *The time- and space-relations between things do stamp copies within us* as for example when things sequent in time impress their sequence on our memory.

WILLIAM JAMES PROPOSES a solution of the mystery of how time exists—at least how it exists in experience. So far as our experience goes, past and future can exist only in the present. But how can these extended parts of time exist in the present if the present is but a fleeting moment without any extent of duration gone as James says, in the instant of becoming? His answer is in terms of something he calls the specious present.

Unlike the real present, the specious present is no knife edge but a saddle back with a certain breadth of its own on which we sit perched and from which we look in two directions into time. The unit of composition of our perception of time is a *dilation* with a bow and a

stern as it were—a rearward and a forward-looking end. It is only as parts of this *duration-block* that the relation of succession of one end to the other is perceived.

On the basis of some experimental evidence James estimates that the specious present may vary in length from a few seconds to probably not more than a minute. It has a vaguely vanishing backward and forward fringe but its nucleus is probably the dozen seconds or less that have just elapsed.

The irreversible flow of time—the succession of moments which constitute the motion of the future through the present into the past—occurs in the specious present though not according to James without the accompaniment of observed or experienced change. Awareness of change is the condition on which our perception of time's flow depends. But that awareness must take place in the specious present with its content perceived as having one part earlier and the other part later. In consequence James considers the specious present to be not only the original intuition of time but also the original paragon prototype of all concerned times.

THE PROBLEMS OF TIME, its own process and being as well as its relation to all other existence and change, its character as an aspect of experience and as an object of thought seem to belong to many subject matters—to psychology and to experimental or mathematical physics, to the philosophy of nature, metaphysics and theology.

For some thinkers—in our own time notably Bergson, Whitehead and Dewey—the concept of time of the burgeoning future of the continuum of events seems to determine a whole philosophical outlook. If it is not equally decisive throughout the tradition of the great books it is at least of critical significance in speculations about the origin and end of the world in the contrast between physical and spiritual modes of being in the consideration of the processes of life, thought and feeling and in the analysis of more inclusive concepts such as that of order.

The temporal relationships of succession and simultaneity for example may be the source from which we derive the notions of prior pos-

tenor and simultaneous but they are traditionally viewed as exemplifying rather than exhausting these types of order. When Augustine deals with the perplexing theological question of the priority of eternity to time, he finds it necessary to distinguish priority in eternity, priority in time, priority in choice, priority in origin.

When Aristotle deals with metaphysical questions concerning the order of cause and effect of potentiality and actuality of essence and accident, he differentiates between temporal and logical priority and between priority in thought and priority in nature. When Harvey tries to solve the familiar biological riddle (which came first, the chicken or the egg?) he also finds his solution in a distinction. The fowl is prior by nature, he writes, but the egg is prior in time.

Space and spatial relationships no less than time and the temporal figure in the general analysis of order or relatedness and have a bearing on other problems in physics and philosophy. But in addition to time's having more significance than space for the theologian, time also has peculiar importance for one subject-matter in which space is of much less concern, namely history and the philosophy of history.

Besides the general view which the historian takes of time as the locus of history or the medium in which the pattern of history unfolds, the writer of history usually employs certain conventional time divisions to mark the major phases or epochs of the story he has to tell. Clocks and calendars record or represent the passage of time in conventional units, but these conventions have some natural basis in astronomical time, solar or sidereal. In contrast, the distinction between historic and prehistoric time or the division of history into such periods as ancient, mediaeval and modern seems to be purely a matter of social or cultural convention.

With Hegel, however, the division of the whole of history into three epochs and of each epoch again into three periods follows from the dialectical triad of thesis, antithesis and synthesis, which is the idealising form of history's development. The division of each of the three phases of world history—the Oriental, the Greek

and the German worlds—into a first, second and third period produces in each case the same pattern of origin, conflict and resolution. For the most part, Hegel does not identify these three periods with ancient, mediaeval and modern times, yet in one case, that of the German world, he does refer to the second period as the middle ages and the third as the modern time.

Such words as ancient and modern have conventional significance for most historians. Furthermore, the meanings of modernity and antiquity are themselves subject to historical relativity. In the tradition of the great books, this appears most plainly in the references made to ancients and moderns by writers whom we today classify as ancient and mediaeval.

Thucydides, for example, begins his history with a description of what is for him the antiquity of Greece. Nicomachus opens his *Introduction to Arithmetic* with a remark about the ancients, who under the leadership of Pythagoras first made science systematic, defined philosophy as the love of wisdom. Mathematics, Aristotle says, has come to be identical with philosophy for modern thinkers.

In another place, Aristotle contrasts the thinkers of the present day with the thinkers of old, and in still another he speaks of ancient and truly traditional theories. Like Aristotle in the sphere of thought, so Tacitus in the sphere of politics frequently compares ancient and modern institutions or practices.

In the Middle Ages, Aquinas speaks of the teachings of the early philosophers and as frequently as Aristotle, he refers to ancient and modern doctrines. In the Renaissance, Kepler treats as ancient a scientist who, in point of time, comes much later than those whom Aristotle and Aquinas call modern. Classifying three schools of astronomical thought, he distinguishes an ancient one, which had Ptolemy as its coryphaeus, from two modern ones, respectively headed by Copernicus and Tycho Brahe.

Such references, which have occurred in all three periods of the western tradition, suggest the probability that at some future date the whole tradition with which we are now acquainted will be referred to as the thought and culture of ancient times.



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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Iliad* 211 [265 283] 12d the number 4 is the number of the volume in the set, the number 12d indicates that the passage is in section d of page 12.

PAGE 5104. When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAV *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page and the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PAB *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

AUTHOR DIVISIONS. One or more of the main divisions of a work (such as PART BOOK CHAPTER) are sometimes included in the reference line numbers in brackets as given in certain cases e.g. *Iliad* 211 [265 83] 12d.

BOOK REFERENCES. The references to book chapter and verse. When the King James Douay versions differ in the folios of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) *IIE d* 7 46.

SYMBOLS. The abbreviation esp calls the reader's attention to one or more especially relevant parts of a whole reference. pssm signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references, see the Explanation of Reference Style for general guidance in the use of *The Great Index* consult the Preface.

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- 7 PLATO *Tmaeus* 450c-451a / *Parmen des*  
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(6) *The knowledge of time and the experience of duration*

6b Factors influencing the estimate of time elapsed empty and filled time illusions of time perception the variability of experienced durations

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6c Time as a transcendental form of intuition the *a priori* foundations of arithmetic the issue concerning innate and acquired time perception

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6d The signifying of time the distinction between noun and verb the tenses of the verb

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6e Knowledge of the past the storehouse of memory the evidences of the past in physical traces or remnants

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6f Knowledge of the future the truth of propositions about future contingents the probability of predictions

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idea and topics with which this chapter deals. These works are divided into two groups

- I Works by authors represented in this collection  
II Works by authors not present in this collection

For the date place and other facts concerning the publication of the works cited consult  
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## Chapter 94 TRUTH

### INTRODUCTION

NOT everyone knows Josiah Royce's definition of a liar as a man who willfully misplaces his ontological predicates but every one who has ever told a lie will recognize its accuracy. To restate the definition less elegantly lying consists in saying the contrary of what one thinks or believes. To speak truthfully we must make our speech conform to our thought; we must say that something is the case if we think it is or that it is not if we think it is not. If we deliberately say *is* when we think *is not* or say *is not* when we think *is* we lie.

Of course the man who speaks truthfully may in fact say what is false just as the man whose intent is to falsify may inadvertently speak the truth. The intention to speak, one's mind does not guarantee that one's mind is free from error or in possession of the truth. Herein lies the traditional distinction between truth as a social and as an intellectual matter. What Dr. Johnson calls *moral* truth consists in the obligation to say what we mean. In contrast what he calls *physical* truth depends not on the veracity of what we say but on the validity of what we mean.

The theory of truth in the tradition of the great books deals largely with the latter kind of truth. The great issues concern whether we can know the truth and how we can ever tell whether something is true or false. Though the philosophers and scientists from Plato to Freud seem to stand together against the extreme sophistry or skepticism which denies the distinction between true and false or puts truth utterly beyond the reach of man, they do not all agree on the extent to which truth is attainable by men on its immutability or variability and the signs by which men tell whether they have the truth or not or on the causes of error and the means for avoiding falsity.

Much that Plato thinks is true Freud rejects

as false. Freud searches for truth in other quarters and by other methods. But the ancient controversy in which Socrates engages with the sophists of his day who were willing to regard as true whatever anyone wished to think seems to differ not at all from Freud's quarrel with those whom he calls intellectual nihilists. They are the persons who say there is no such thing as truth or that it is only the product of our own needs and desires. They make it absolutely immaterial. Freud writes what views we accept. All of them are equally true and false. And no one has a right to accuse any one else of error.

Across the centuries the arguments against the skeptic seem to be the same. If the skeptic does not mind contradicting himself when he tries to defend the truth of the proposition that all propositions are equally true or false, he can perhaps be challenged by the fact that he does not act according to his view. If all opinions are equally true or false, then why Aristotle asks does not the denier of truth walk into a well or over a precipice instead of avoiding such things? If it were really a matter of indifference what we believed, Freud similarly argues, then we might just as well build our bridges of cardboard as of stone or inject a tenth of a gramme of morphia into a patient instead of a hundredth or take tear gas as a narcotic instead of ether. But he adds, the intellectual anarchists themselves would strongly repudiate such practical applications of their theory.

Whether the skeptic can be refuted or merely silenced may depend on a further step in the argument in which the skeptic substitutes probability for truth both as a basis for action and as the quality of all our opinions about the real world. The argument takes different forms according to the different ways in which probability is distinguished from truth or according

to the distinction between a complete and limited skepticism Montaigne for example seems to think that the complete skeptic cannot even acknowledge degrees of probability to be objectively ascertainable without admitting the criterion of truth whereas Hume defending a mitigated skepticism offers criteria for measuring the probability of judgments about matters of fact

THE POSITION OF THE SKEPTIC in its bearing on truth and probability is discussed in the chapters on KNOWLEDGE and OPINION Here we shall proceed to other controversial questions concerning truth But we must first observe that there is one major question which does not seem to cause much dispute Not only do the great authors (with the possible exception of Montaigne and Hume) seem to be unanimous in their conviction that men can attain and share the truth—at least some truths—but they also appear to give the same answer to the question What is truth?

The apparently unanimous agreement on the nature of truth may seem remarkable in the context of the manifold disagreements in the great books concerning what is true As already indicated some of these disagreements occur in the theory of truth itself—in divergent analyses of the sources of error or in conflicting formulations of the signs of truth But even these differences do not affect the agreement on the nature of truth Just as everyone knows what a liar is but not as readily whether someone is telling a lie so the great philosophers seem able to agree on what truth is but not as readily on what is true That the definitions—of lying and of truth—are intimately connected will be seen from Plato's conception of the nature of truth as a correspondence between thought and reality If truthfulness viewed socially requires a man's words to be a faithful representation of his mind truth in the mind itself (or in the statements which express thought) depends on their conformity to reality

A false proposition according to Plato is one which asserts the non existence of things which are and the existence of things which are not Since false opinion is that form of opinion which thinks the opposite of the truth it necessarily follows as Aristotle points

out that to say of what is that it is and of what is not that it is not is true just as it is false to say of what is that it is not or of what is not that it is

In one sense the relation between a true statement and the fact it states is reciprocal If a man is Aristotle declares then the proposition in which we allege that he is is true and conversely if the proposition wherein we allege that he is is true then he is But the true proposition is in no way the cause of the being of the man whereas the fact of the man's being does seem somehow to be the cause of the truth of the proposition for the truth or falsity of the proposition depends on the fact of the man's being or not being

THIS SIMPLE STATEMENT about the nature of truth is repeated again and again in the subsequent tradition of western thought What variation there is from writer to writer seems to be in phrasing alone though the common insight concerning truth as an agreement or correspondence between the mind and reality may occur in the context of widely varying conceptions concerning the nature of the mind and of reality or being

Plotinus may be an exception insofar as his theory of knowledge involves a relation of identity rather than of mere correspondence The object known he writes must be identical with the knowing act If this identity does not exist neither does truth Truth cannot apply to something conflicting with itself what it affirms it must also be

But others like Augustine Aquinas Descartes and Spinoza adopt the conception of truth as an agreement between the mind and reality Falshood occurs says Augustine when something is thought to be which is not According to Aquinas any intellect which understands a thing to be otherwise than it is is false Truth in the human intellect consists in the conformity of the intellect with the thing The same point is implied at least in Descartes remark that if we do not relate our ideas to anything beyond themselves they cannot properly speaking be false Error or for that matter truth can only arise in my judging that the ideas which are in me are similar or conformable to the things which are out

side me : Spinoza states it as an axiom rather than a definition that a true idea must agree with that of which it is the idea

Making a distinction between verbal and real truth Locke writes Though our words signify nothing but our ideas yet being designed by them to signify things the truth they contain when put into propositions will be only verbal when they stand for ideas in the mind that have not an agreement with the reality of things Precisely because he considers truth to consist in the accordance of a cognition with its object Kant holds that so far as the content (as opposed to the form) of a cognition is concerned it is impossible to discover a universal criterion of truth

We shall return to Kant's point in a subsequent discussion of the signs of truth as also we shall have occasion to return to Locke's distinction between real and verbal truth Neither affects the insight that truth consists in the agreement of our propositions or judgments with the facts they attempt to state unless it is the qualification that truth so defined is real not verbal

In his Preface to *The Meaning of Truth* James comments on the excitement caused by his earlier lectures on pragmatism in which offering the pragmatist's conception of truth he had spoken of an idea's working successfully as the sign of its truth He warns his critics that this is not a new definition of the nature of truth but only a new interpretation of what it means to say that the truth of our ideas consists in their agreement as falsity means their disagreement with reality Pragmatists and intellectualists he adds both accept this definition as a matter of course

To a man in the widest sense with reality James then explains can only mean to be guided either straight up to it or into its surroundings or to be put into such working touch with it as to handle either it or something connected with it better than if we disagreed Better either intellectually or practically Any idea that helps us to deal whether practically or intellectually with either the real or its belongings that fits in fact and adapts our life to the reality's whole setting will agree sufficiently to meet the requirement It will be true of that reality

Without enlarging on its meaning as James does Freud affirms that the ordinary man's conception of truth is that of the scientist also Science he says aims to arrive at correspondence with reality that is to say with what exists outside of us and independently of us This correspondence with the real external world we call truth It is the aim of scientific work even when the practical value of that work does not interest us

THE DEFINITION OF TRUTH as the agreement of the mind with reality leaves many problems to be solved and further explanations to be given by those who accept it As James indicates the theory of truth begins rather than ends with its definition How do we know when our ideas—our statements or judgments—correspond with reality? By what signs or criteria shall we discover their truth or falsity? To this question the great books give various answers which we shall presently consider There are other problems about the nature of truth which deserve attention first

For example one consequence of the definition seems to be that truth is a property of ideas rather than of things Aristotle says that it is not as if the good were true and the bad were in itself false hence falsity and truth are not in things but in thought Yet he also applies the word false to non-existent things or to things whose appearance somehow belies their nature Aquinas goes further He distinguishes between the sense in which truth and falsity are primarily in the intellect and secondarily in things

The equation between intellect and thing he points out can be looked at in two ways depending on whether the intellect is the cause of the thing's nature or the nature of the thing is the cause of knowledge in the intellect When things are the measure and rule of the intellect truth consists in the equation of the intellect to the thing But when the intellect is the rule or measure of things truth consists in the equation of things to the intellect—as the product of human art may be said to be true when it accords with the artist's plan or intention Thus a house is said to be true that fulfills the likeness of the form in the architect's mind

But according to Aquinas not only artificial things but natural things as well can have truth when they are viewed in relation to the intellect on which they depend. The divine intellect which is the creative cause of natural things measures their truth as the human intellect measures the truth of artificial things.

Natural things are said to be true. Aquinas writes: "in so far as they express the likeness of the ideas that are in the divine mind for a stone is called true which possesses the nature proper to a stone according to the preconception in the divine intellect."

Aquinas' conclusion—that truth resides primarily in the intellect and secondarily in things according as they are related to the intellect as their source—at once suggests the profound difference between truth in the divine and in the human intellect. The difference is more than that between infinite and finite truth. The distinction between uncreated and created truth affects the definition of truth itself.

The definition of truth as an equation of *thought to thing* or *thing to thought* does not seem to hold for the divine intellect. The notion of conformity with its source Aquinas acknowledges cannot be said properly speaking of divine truth. Divine truth has no source. It is not truth by correspondence with anything else. Rather it is in the language of the theologian the primal truth. God Himself. Who is the primal truth is the rule of all truth and the principle and source of all truth.

IN THE HUMAN SPHERE the definition of truth seems to be differently interpreted according as truth is made a property of words or of ideas.

To form a clear notion of truth Locke writes: "it is very necessary to consider truth of thought and truth of words distinctly from one another. The truth of signs or what is sometimes called truth of signification is nothing but the joining or separating of words in propositions as the ideas they stand for agree or disagree in men's minds. In contrast to such verbal truth what Locke calls mental truth consists in the joining or separating of our ideas themselves in a manner to accord with the realities they represent."

For Locke verbal truth is chimerical or barely nominal because it can exist without any regard to whether our ideas are such as really have or are capable of having an existence in nature. The signs we use may truly represent our thought even though what we think or state in words is false in fact. Hobbes takes a somewhat contrary view. True and false he writes are attributes of speech not of things. And where speech is not there is neither truth nor falsehood.

What is the cause of truth in speech? Hobbes replies that since it consists in the right ordering of names in our affirmations a man needs only to remember what every name he uses stands for. If men begin with definitions or the settling of significations and then abide by their definitions in subsequent discourse their discourse will have truth. From want of definitions or from wrong definitions arise all false and senseless tenets.

Agreement with reality would seem to be the measure of truth for Hobbes only to the extent that definitions can be right or wrong by reference to the objects defined. If definitions themselves are merely nominal and have rightness so far as they may be free from contradiction then truth tends to become more than a property of speech almost purely logistical—a matter of playing the game of words according to the rules. Reasoning is reckoning with words. It begins with definitions and if it proceeds rightly it produces general eternal and immutable truth. For he that reasoneth aright in words he understandeth can never conclude in error.

Hobbes' position seems to have a bearing not only on the issue concerning verbal and real truth but also on the question whether the logical validity of reasoning makes the conclusion it reaches true as a matter of fact. Some writers like Kant distinguish between the truth which a proposition has when it conforms to the rules of thought and the truth it has when it represents nature. Valid reasoning alone cannot guarantee that a conclusion is true in fact. That depends on the truth of the premises—upon their being true of the nature of things. Aristotle criticizes those who accept certain principles as true are ready to accept any consequence of their application.

As though some principles he continues did not require to be judged from their results and particularly from their final issue. And that issue in the knowledge of nature is the unimpeachable evidence of the senses as to each fact.

BUT NOT ALL TRUTH may require or admit of such certification. The truths of mathematics may be different from those of physics or meta-physics and those of philosophy or religion from those of the empirical natural sciences. It is sometimes supposed for example that the truths of mathematics are purely formal or without reference to real existence. That seems to be the position of Hobbes and Hume both of whom take geometry as the model of truth. For them statements of fact about real existence are at best probable opinions. For others like James there can be truth in the natural sciences but such empirical truth is distinct in type from what he calls the necessary or *a priori* truths of mathematics and logic.

Does the definition of truth as agreement with reality apply to all kinds of truth, or only to truths about the realm of nature? The question has in mind more than the distinction between mathematics and physics. It is concerned with the difference between the study of nature and the moral sciences or between the theoretic and the practical disciplines. As regards nature writes Kant experience presents us with rules and is the source of truth but not so in ethical matters or morality. A theoretic proposition asserts that something exists or has a certain property and so its truth depends on the existence of the thing or its real possession of an attribute but a practical or moral judgment states not what is but what should occur or ought to be. Such a judgment cannot be true by correspondence with the way things are. Its truth according to Aristotle must consist rather in agreement with right desire.

On this theory all that remains common to speculative and practical truth is the conformity of the intellect to something outside itself—to an existing thing or to desire, will or appetite. Stressing the difference Aquinas declares that truth is not the same for the practical as for the speculative intellect. The conformity

with right appetite upon which practical truth depends he goes on to say has no place in necessary matters which are not effected by the human will but only in contingent matters which can be effected by us whether they be matters of interior action or the products of external work. In consequence in matters of action truth or practical rectitude is not the same for all as to what is particular but only as to the common principles whereas in speculative matters concerned chiefly with necessary things truth is the same for all men both as to principles and as to conclusions.

THE PROBLEM OF THE CRITERIA or signs of truth does not seem to be of equal concern to all who discuss the nature of truth. For the ancients at one extreme it seems to be hardly a problem at all. For William James at the other extreme it seems to be the central problem. In the controversy over the pragmatic theory of truth in which James engages with Bradley and Russell some confusion tends to result from the fact that James seldom discusses what truth is except in terms of how we know what is true while his opponents often ignore the signs of truth in discussing its nature. The important point for James is not that truth consists in agreement with reality but that true ideas are those we can assimilate, validate, corroborate and verify. Whether we can assimilate or validate or verify an idea in turn depends upon its consequences either for thought or action or what James calls truth's cash value in experiential terms.

In his *Psychology* James suggests another aspect of his theory of the expediency of a true idea which he later developed in *Pragmatism*. Not only must our conceptions or theories be able to account satisfactorily for our sensible experience but they are also to be weighed for their appeal to our aesthetic, emotional and active needs. Apart from this added criterion which became the subject of much dispute the pragmatic theory of truth represents one of the traditional solutions of the problem of how to tell whether something is true or false. It looks mainly to extrinsic signs—not to some feature of the idea or thought itself but to its consequences.

The test of real and vigorous thinking

writes J S Mill the thinking which ascertains truths instead of dreaming is successful application to practice. In similar vein Bacon says that of all the signs there is none more certain or worthy than that of the fruits produced for the fruits and effects are the sureties and vouchers as it were for the truth of philosophy. The man who supposes that the end of learning lies in contemplation of the truth will propose to himself as the test of truth the satisfaction of his mind and understanding as to the causes of things long since known. Only those who recognize that the real and legitimate goal of the sciences is the endowment of human life with new inventions and riches will submit truth to the test of its leading to some new earnest of effects. To take effects as pledges of truth is for Bacon equivalent to declaring that truth and utility are perfectly identical.

Verification by appeal to observation or sensible evidences may be regarded as one way of testing the truth of thought in terms of its consequences but it also involves the principle of contradiction as a criterion of truth. When Aristotle recommends for example that we should accept theories as true only if what they affirm agrees with the observed facts he is saying that when the truth of a particular perception is indisputable because the observed fact is evident the general or theoretical statement which it contradicts must be false.

But the principle of contradiction as a criterion of truth goes further than testing theories by their consistency with observation. One of two contradictory statements must be false and the other must be true if that which it is true to affirm is nothing other than that which it is false to deny. Even a single statement may show itself false by being self-contradictory and in consequence its opposite can be seen to be true. What Aristotle calls axioms or self-evident and indisputable truths are those propositions immediately known to be true and necessarily true because their contradictories being self-contradictory are impossible statements or necessarily false. The truth of any proposition which is neither a self-evident axiom nor the statement of an evident perceived fact is tested according to the principle of contradiction by its consistency with axioms or perceptions.

As opposed to consequences or effects contradiction or consistency as a sign of truth seems to be an intrinsic criterion. But this criterion is not universally accepted. Contradiction writes Pascal is not a sign of falsity nor the want of contradiction a sign of truth. Nor even when accepted is it always judged adequate to solve the problem. It is for Kant a merely logical criterion of truth the *conditio sine qua non* or negative condition of all truth. Farther than this logic cannot go and the error which depends not on the form but on the content of the cognition it has no test to discover.

Some thinkers seem to rely upon an intrinsic mark by which each idea reveals its own truth or falsity. Augustine for example considers by what criterion he would know whether what Moses said was true. And if I did know it he asks would it be from him that I knew it? No he replies but within me in the inner retreat of my mind the Truth which is neither Hebrew nor Greek nor Latin nor Barbarian would tell me without lips or tongue or sounded syllables. He speaks truth.

For Augustine God is the warranty of the inner voice which plainly signifies the truth. For Spinoza the truth of an idea depends upon its relation to God. Because a true idea in us is that which in God is adequate in so far as He is manifested by the nature of the human mind it follows according to Spinoza that he who has a true idea knows at the same time that he has a true idea nor can he doubt the truth of the thing for he who knows a thing truly must at the same time have an adequate idea or a true knowledge of his knowledge. That is to say (as is self-evident) he must be certain.

It is impossible Spinoza maintains to have a true idea without at the same time knowing that it is true. To the question How can a man know that he has an idea which agrees with that of which it is the idea? he replies that he knows it simply because he has an idea which agrees with that of which it is the idea that is to say because truth is its own standard. For what can be clearer Spinoza asks or more certain than a true idea as the standard of truth? Just as light reveals both itself and the darkness, so truth is the standard of itself and of the false.

Spinoza defines an adequate idea as one which in so far as it is considered in itself without reference to the object has all the properties or internal signs of a true idea. He explains moreover that by internal he means to exclude even the agreement of the idea with its object. Thus he thinks meets the objection that if a true idea is distinguished from a false idea only in so far as it is said to agree with that of which it is the idea, the true idea [would have] no reality or perfection above the false idea (since they are distinguished by an external sign alone) and consequently the man who has true ideas will have no greater reality or perfection than he who has false ideas only.

Although Descartes and Locke also employ an intrinsic criterion of truth—not the adequacy but the clarity and distinctness of ideas—they do not seem to mean as Spinoza does that a single idea in and of itself can be true or false. Like Aristotle before them or Kant later, they regard a simple idea or concept as strictly speaking incapable of being either true or false.

Truth and falsity writes Locke belong only to propositions—to affirmations or denials which involve at least two ideas or as Kant says truth and error are only to be found in a judgement which explains why the senses do not err not because they always judge correctly but because *they do not judge at all*.

Nevertheless for Locke the clarity and distinctness of the ideas which enter into the formation of propositions enable the mind to judge intuitively and certainly of their truth. When ideas are clear and distinct the mind perceives the agreement or disagreement of two ideas immediately by themselves. Such kind of truths the mind perceives at the first sight of the ideas together by bare intuition and thus kind of knowledge is the clearest and most certain that human frailty is capable of.

THE PROBLEM OF the criterion of truth is sometimes closely connected with the problem of the causes of error. Descartes seems to pass by natural steps from one to the other. Having decided that the things which we conceive very clearly and distinctly are all true, he reminds

himself that there may be some difficulty in ascertaining which are those that we distinctly conceive. The mystery of error looms large for Descartes because it seems to him that the human intellect being created by God must have a kind of natural infallibility, the infallibility of an instrument designed by God for knowing the truth not for ignorance or error.

If we did not know Descartes reflects that all that is in us of reality and truth proceeds from a perfect and infinite being, how ever clear and distinct were our ideas, we should not have any reason to assure ourselves that they had the perfection of being true. But once we have recognized that there is a God and also recognized that all things depend upon Him and that He is not a deceiver, we can infer that whatever we perceive clearly and distinctly cannot fail to be true.

What then is the source of our errors? I answer writes Descartes that they depend on a combination of two causes to wit on the faculty of knowledge that rests in me and on the power of choice or free will. Each perfect in its own sphere, neither the will nor the understanding by itself causes us to fall into error. Since I understand nothing but by the power which God has given me for understanding, there is no doubt Descartes declares that all that I understand I understand as I ought and it is not possible that I err in this.

The trouble lies in the relation of the will to the intellect. Since the will is much wider in its range and compass than the understanding, I do not restrain it within the same bounds but extend it also to things which I do not understand. It is not God's fault says Descartes if in the exercise of my freedom I do not withhold my assent from certain things as to which He has not placed a clear and distinct knowledge in my understanding. But as long as I so restrain my will within the limits of knowledge that it forms no judgment except on matters which are clearly and distinctly represented to it by the understanding, I can never be deceived.

There are other accounts of error less elaborate than Descartes' which are similar to the extent that they place the cause in some combination of human faculties rather than in its simple and separate operation. Socrates explains to Theaetetus that false opinions arise when the



senses and the mind do not cooperate properly Aristotle suggests that it is the imagination which frequently misleads the mind. Looking at the problem from the point of view of the theologian Aquinas holds that Adam in his state of innocence before the fall could not be deceived. While the soul remained subject to God he writes the lower powers in man were subject to the higher and were no impediment to their action. But man born in sin can be deceived not because the intellect itself ever fails but as a result of the wayward influence of some lower power such as the imagination or the like.

Lucretius for whom sense not mind is infallible attributes error to the fault of reason which misinterprets the veridical impressions of the senses. What surer test can we have than the senses he asks whereby to note truth and falsehood? He explains that the mind not the senses is responsible for illusions and hallucinations. Do not then fasten upon the eyes this frailty of the mind.

Other writers like Descartes take the opposite view that the senses are much less trustworthy than the intellect. Still others like

Montaigne seem to find that error and fallacy rather than any sort of infallibility are quite natural to all human faculties and beset sense and reason alike. Man says Pascal is full of error natural and inescapable without grace. Nothing shows him the truth. Everything deceives him. Those two sources of truth reason and the senses besides being both wanting in sincerity deceive each other in turn.

Considering the extremes to which men have gone in their appraisal of human prowess or frailty Locke's moderate statement of the matter is worth pondering. Notwithstanding the great noise made in the world about errors and opinions he writes I must do mankind that right as to say there are not so many men in errors and wrong opinions as is commonly supposed. Not that I think they embrace the truth but indeed because concerning these doctrines they keep such a stir about they have no thought no opinion at all. And though one cannot say that there are fewer improbable or erroneous opinions in the world than there are yet this is certain there are fewer that actually assent to them and mistake them for truths than is imagined.

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Iliad* BK II [265 283] 12d, the number 4 is the number of the volume in the set, the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS.** When the text is printed in one column, the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns, the letters a and b refer to the upper and lower halves of the left-hand side of the page, the letters c and d to the upper and lower halves of the right-hand side of the page. For example in 7 PLATO *Symposium* 163b-164c the passage begins in the lower half of the left-hand side of page 163 and ends in the upper half of the right-hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART BK CI ■ CT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* BK II [265 283] 12d.

**BIBLE REFERENCES.** The references are to book, chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses, the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT Nehemiah 7 45—(D) II Esdras 7 46.

**SYMBOLS.** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference. passim signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

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17 PLOTINUS *Fifth Ennead* TR III CH 5 218b

18 AUGUSTINE *Confessiones* BK VII par 21 49d 50a

19 AQUINAS *Summa Theologiae* PART I Q 13 A 12 NS and REP 3 74 75b Q 16 94b 100d esp A I NS 94b-95c A 2 ANS 95c 96b Q 17 A 4 103c 104b

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42 KANT *Pure Reason* 36a 37b 77b d 94a 193a b

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7 PLATO *Euthydemus* 71c 74a / *Gorgias* 260b / *Republic* BK IX 421a 422b / *Timaeus* 447a d / *Sophist* 556c 559a

8 ARISTOTLE *Pro or Analytica* BK I C 1 32 [47 4 0] 63a / *Metaphysics* BK I CH 3 [270<sup>b</sup> 13] 361c d BK III C 1 7 [3 6 1 18] 397b c / *Soul* BK I CH 1 [4 2<sup>b</sup> 15 4 3 2] 631d 632a

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10 HIERONYMUS *Ancient Medicine* par 1 1b

10 GILBERT *Natural Faculties* BK I CH 13 173d

12 LUCRETII *Nature of Things* BK I [6 0-700] 9 BK IV [469 499] 50b d

18 AUGUSTINE *Confessions* BK X par 17 0 75c 76 BK XI par 5 90b-c / *City of God* BK XI CH 2 323a c

- 19 AQUIN'S *Summa Theologiae* PART I Q 32  
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- 23 H BES *Leviathan* PART I 56b PART III  
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- 24 MONTAIGNE *Essays* 260c 261 285c 288a  
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- 28 GALILEO *Two New Sciences* THIRD DAY  
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- 28 HARVEY *Motion of the Heart* 268d 286b c  
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- 30 BACON *Advancement of Learning* 16a 43d  
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- 31 DESCARTES *Philosophy* 11 2a 3b / *Discourse* PART  
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v 99 / *Objections and Replies* 123d 125b  
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206c 207a 210b c 226d 237b 238b
- 31 SPINOZA *Ethics* PART I AX O 6 355d PART  
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- 31 PASCAL *Vacuum* 365b 366a / *Geometrical*  
*Demonstrations* 435b 436b
- 34 NEWTON *Principia* K III RULE IV 271b
- 35 LOCKE *Human Understanding* g INTRO ECT  
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CH VI SECT 3 362c d
- 35 BAKELAY *Human Knowledge* & CT 129  
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- 35 HUME *Human Understanding* g SECT X DIV 82  
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- 37 FIDELITY *Tom Jones* 13b
- 38 RUSSELL *Inequality* 348a c
- 42 KANT *Pure Reason* 36b 37b 64d 65 77b d  
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- 43 FIDELITY NUMER 78 b
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- 46 HUME *Philosophy of Religion* 2b PART  
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- 51 TO STUYL *Indifference* 684a
- 53 JAMES *Psychology* 141 142a 176 b 456  
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- 54 FREUD *New Introductory Lectures* 819d 820a  
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- 1b The relation between truth and being or  
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- 7 PLATO *Euthydemus* 71c 74 / *Cratylus* 85a  
89b / *Phaedrus* 124c 126c / *Republic* BK V  
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- 8 ARISTOTEL *Categories* CH 12 [14<sup>b</sup>10-2] 20b /  
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73 / *Metaphysics* s BK II N I [99<sup>b</sup>19-31]  
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- 17 PLOTINUS *Fifth Ennead* ad TAI III H 5 218b
- 18 AUGUSTINE *Confessions* BY II PAR 10 15b d  
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- 19 AQUINAS *Summa Theologiae* PART I Q I  
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Q 18 A 4 R 3 107d 108c Q 44 A I ANS  
238b 39 Q 87 A 3 REP 1 467b-468a II 19  
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- 21 DANT *Divine Comedy* PARADISE IV [124-  
6] 112a XXXIII [49-54] 156d
- 23 HOES *Lexicon* ART I 56b
- 31 DANT *Medusa* 76c / *Objections*  
*ad Replies* 226d 227a 229 d 261a
- 31 SINOZA *Ethics* ART I AXIOM 6 355d PART  
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376d 377a PROP 24 383c 385d PROP 43  
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COROL 2 H ONST 390a
- 35 LOCKE *Human Understanding* K IV CH V  
ECT 7 8 330b d
- 42 KANT *Pure Reason* 36a 37b esp 36b c 91d  
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- 46 HUME *Philosophy of Religion* PART II pa 350  
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- 51 TO STUYL *War and Peace* BK V 217
- 53 JAMES *Psychology* 636a 638a 643a esp 641a  
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- 1c The relation of truth goodness and being to  
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- 7 PLATO *Protagoras* 124c 129d / *Symposium*  
167 d / *Republic* K VI 333d 388a / *Theaetetus*  
11 s 525c 526 / *Sophist* 556 559 561b d  
/ *Philebus* 6.0d 631d 637 638 / *Lysis* K  
II 654 662a
- 8 ARISTOTEL *Metaphysics* s BK V C I [113 0-  
4] 533b K X CH 7 [72 5-4] 602b-c /

- (1 *The nature of truth* 1c *The relation of truth goodness and beauty*)
- 5011 BK III CH 7 663c 664b esp [431 13 19] 663d
- 12 EPICETUS *Discourses* BK II CH 2 141a BK IV CH II 241a b
- 12 AURELIUS *Med tat o s* BK IV SECT 20 265a b
- 17 PLOTINUS *F n E nead* TR III CH I 2 10a d TR VI CH 3 9 22b 26a esp CH 4 23a / *Sixth E ead* TR VII CH 31-33 336d 338b
- 18 AUGUSTINE *Co fessions* BK VII par 23 50b c
- 19 AQUINAS *Summa Theolog ca* P RTI Q 5 A 4 REP 1 25d 26c Q 16 A 1 ANS 94b 95c A 3 ANS 96b d A 4 97a-c Q 17 A 4 REP 2 103c 104b Q 54 A 2 ANS 285d 286c Q 79 A II REP 2 424d-425b Q 82 A 3 REP 1 433c-434c A 4 REP 1 434c-435c P RTI II Q 3 A 5 RE 2 626b 627a Q 9 A 1 ANS and REP 2 3 657d 658d Q 19 A 1 703b d A 3 REP 1 704c 705a Q 22 A 2 ANS 721c 722c Q 27 A 1 REP 3 737b d A 2 ANS 737d 738c Q 29 A 5 747c 748b
- 20 AQUINAS *Summa Theologic* PART II II Q 180 A 2 REP 3 608c 609c
- 30 BACON *Ad a cement of Lear i g* 26c 27a
- 35 LOCKE *Huma Understand g* BK IV CH III SECT 20 319b c
- 46 HEGEL *Philosophy f Rglt* PART II par 132 46b / *Philosophy f History* PART II 278a c PART IV 346d 347a
- 52 DOSTO VSKY *B others Kar m ot* BK VI 153b d
- 54 FR UD *New Introductory Lectures* 880b

## 2 The modes of truth and falsity

### 2a The distinction between truth and falsity in the m nd and in th ngs log c l and ontolog m l truth

- 8 A I TOTLE *Metaphysics* BK V CH 29 [ 24<sup>b</sup> 18 26] 546c d
- 19 AQUINAS *Summa Theologica* PART I Q 16 A 1 94b 95c A 7 REP 4 99a d Q 17 A 1 100d 101d Q 21 A 2 125 d
- 31 D CARTES *Obj t and Repl es* 126b 127c
- 35 LOCKE *Human Under t nding* K I CH XXVII 3 T 2 243d m V CH V SECT II 331b

### 2b The distinct on between truth of st tement and truth of s gn ficat on the d st nct ion between re l and erb l truth

- 8 ARISTOTLE *Met phys c* BK IV CH 4 [1006 12-29] 525b K XI CH 5 [1062 5 19] 590b m
- 19 AQUIN S *Summ Th logic* PART I Q 16 8 REP 3 99d 100d
- 23 HOBBS *Leviath* PART I 56b
- 31 SPINOZA *Eth cs* PART II P OP 47 SCHOL 390c 391a
- 35 LOCKE *Human Understand ng* BK II CH XXVII S CT 4 2 244 248 passim P SECT 5 244a b BK IV CH IV S CT 2 323d 326d passim SECT I 323d 324a SECT 18 328d 329a CH V SECT 6-8 330b d
- 53 J m *Psychology* 880b 882a

### 2c The distinction between theoretical and practical truth conformity to existence and conformity to right desire

- 8 ARISTOTLE *Metaphysics* BK II CH I [993<sup>b</sup> 19-31] 512a m
- 9 ARISTOTLE *Ethics* BK I CH 3 339d 340b CH 7 [1098 25-35] 343d BK II CH 2 [1103<sup>b</sup> 6-1104 9] 349b m BK VI CH 2 387d 388b BK X CH I [1172 34 18] 426b c
- 19 AQUINAS *Summa Theologica* P RTI Q 8 5 A m REP 1 458d-459c
- 20 AQUINAS *Summa Theolog ca* m RTI-II Q 5 A 5 REP 3 39a-40a Q 94 A 4 ANS 223d 224d
- 23 HOBBS *Leviathan* PART I 78b m
- 31 DESC RYES *Objections a d Repl es* 125a b 206c 207a 237b-c
- 35 LOCKE *He man Und-rstanding* BK IV CH V SECT II 331b
- 42 K NT *Pu e Reason* 114d 115a 190c 191a / *Fund Prin Met phys c of Morals* 233b-c 264b d 271a c 283d 287d esp 283d 284d / *P actual Reason* 291a 297c 310a b 319c 321b 329a 337a c esp 329b d / *I tro Meta phys c of Morals* 388a d / *Judgement* 596c 598b
- 43 MILL *Utilitarianism* 461c d
- 46 HEGEL *Philosophy of Right* PREF 2d 3b / *Philosophy of History* PART IV 360d 361a
- 53 JAMES *Psychology* 643a 645b 655a 659 865b 886a 888a

### 2d The comparison of human and divine truth finite truths and the infinite truth

- OLD TESTAMENT Exodus 34 6 / *Number* 23 19 / *Psalms* 31 5 86 15 96 13 100 5 117-2 119 142 160 146 6—(D) *Psalms* 30-6 8 12 95 13 99 5 116-2 118 142 160 145 6-7 / *Proverbs* 30 5-6
- NE TESTAMENT John 3 33 7 14 18 8 1-59 14 6 16-17 15 26 16 13 14 17 17 18 3 38 / *Roma* 1 18 25 2-8-20 / *I Corin thian* 1 17 2 16 / *II Corin thian* 13 8 / *Ephes s* 4 21 24 / *II Thessal onians* 2 10-14 / *I Timoty* 2 3 4 3 15 / *II Timoty* 2 25 26 / *Hebrei* 1 6 18 10 26 / *James* 5 19-20 / *I John* 1 5 10 2 4 21 m 3 18 19 5 5 12 esp 5 6 / *II J hn* 2 4 / *III John* 3 4 8
- 18 AUGUSTINE *Co f s s o s* BK III par 10 15b d BK V par 5 28b c BK VI P CT 5 90b c / *Cu r of God* BK VI CH 10 328c d / *Christi Doct ne* BK I CH 9 10 627a b CH 34 634b c
- 19 AQUIN S *Summa Theolog ca* P RTI Q 3 A 1 REP 3 10d 11d Q 16 A 5-8 97 100d Q 21 A 2 ANS 125c d Q 106 A 1 REP 3 545d 546d Q 107 A 2 3 550b 551c RTI II Q 3 A 7 ANS 628a d
- 20 AQUINAS *Summa Theolog u r RTI I* Q 93 A 2 ANS 216c 217b
- 21 DANTE *Divine Comedy* PARADIS II [19-148] 108a 109b pr m IV [115] V [12] 111d 112b XIV [22-66] 135b d XXI [73 102] 139 b
- 25 MONTAIGNE *Essays* 80b 82b 208d 209c 213c m 267c 268a 272d 2 3b

- 31 SINOZA *Ethics* PART II PROP 32 34 385c d  
32 MILTON *Paradise Lost* BK VII [109-13] 219b-220a  
46 H GEL *Philo sophy of H story* PART III 308a b PART IV 349b-350a  
II TOLSTOY *War and Peace* BK V 216d 218b esp 217 d  
III JAMES *Psychology* 671b [fn 1]
- 2e The distinction between truth and probability in relation to the distinction between knowledge and opinion
- 7 PLATO *Republic* K V 370d 373c mp 373b c BK VI 386d 388a / *Timaeus* 447b d / *Theaetetus* 517b-d 527b-d 531b-532a / *Philebus* 633a 635b
- 8 ARISTOTLE *Interpretation* CH 9 28a 29d / *Posterior Analytics* BK I CH 2 97d 99a CH 6 102b 103c CH 8 104a b CH 3 119d CH 33 121b 122 c / *Topics* BK CH I [10 25 26] 143a b / *Metaphysics* BK IV CH 4-6 525a 531c K VII CH 15 [1039<sup>b</sup> 1040 8] 563d 564a BK IX CH 10 [1021<sup>b</sup> 13- 8] 577d BK X CH 6 590d 592b
- 9 ARISTOTLE *Ethics* BK I CH 3 [1091<sup>b</sup> 18] 339d 340 CH 7 [1098<sup>a</sup> 25-35] 343d K II CH 2 [1104 -9] 349b-c BK VI CH 9 [1142<sup>b</sup> 15] 391d / *Rhetoric* BK I CH I [1355 4 18] 594b CH 2 [1357<sup>a</sup> 23<sup>b</sup> 1] 596d 597 BK II CH 5 [1402<sup>b</sup> 13 1403 17] 652b-653a
- 16 COERNIUS *Revolutions of the Heavens by Spherics* 505 506a
- 19 AQUINAS *Summa Theologiae* PART Q 1 A 7 ANS 56a 57b Q 6 8 99d 100d Q 32 A 1 RE 2 175d 178a Q 79 A 9 RSP 3 4 422b-423d
- 20 AQUINAS *Summa Theologiae* PART II Q 57 A 2 R 3 36 37b Q 94 A 4 ANS 223d 224d
- III H BRES *Leviathan* PART 60 61a
- 25 MONTAGNE *Essays* 271b 273b
- 31 DE CARTES *Rule* 1 2 3b III 34-4a / *Discourse* PART I 43d 44 II ART IV 51b d / *Meditations* 1 75a 78b v 95b 96a / *Objections and Replies* 124b-125b
- 31 SINOZA *Ethics* PART I PROP 35 B ON T 385d 386 PROP 40 CHO 388a b RO 41 44 388 390a PROP 40 S HOL 391d 392a
- 32 MILTON *Apology* 406a b
- 33 PASCAL *Penetrate* 184-241 205a 217b passim esp 233 241 213b 217b
- 35 LOCKE *Human Understanding* BK IV CH III SECT 4 316b-d ECT 9 322c 323a CH V SECT 6-8 325a c CT 8 328d 329 CH V 331b-336d esp T 3335 d ECT 6 336d CH V 365a 366c H V I EC 371d 372b CT 13 17 378 379 CH V X ECT 1 384c d 42 H A T P *Reason* I 4a c 108a 228c d 240b-243c / *Judgment* 600d 604b esp 601d, 603 b 603d 604b
- 43 MILL *Liberty* 274b 293b passim
- 45 FARADAY *Electricity* 391b
- 46 HEISENBERG *Philosophy of Right* ART II p 132

- 46b c par 140 49b 54a PART III par 268 84c d ADDITIONS 91 131a d
- 54 FREUD *Beyond the Pleasure Principle* 661c 662a
- 3 Truth and error in relation to human knowing and learning
- 3a Truth in the apprehensions of the sensitive faculty
- 3a(1) The truth of sensations judgments of perception
- 7 PLATO *Phaedrus* 224a b / *Republic* BK VI 386d 388a BK VII 392b 393b BK X 431b-c / *Theaetetus* 538d 541a / *Sophist* 575d 577b esp 577a b / *Philebus* 622d 626a
- 8 ARISTOTLE *Metaphysics* BK IV CH 5 [1010<sup>b</sup> 29] 530a B BK XI CH 6 [106<sup>b</sup> 33-1063 9] 591a b / *Soul* BK II CH 6 [418 6-18] 648d 649a BK III CH 3 [427<sup>b</sup> 6-15] 659d 660a [4 8 II 8] 660b CH III [43<sup>b</sup> 26-3] 663b c / *Sense and the Sensible* C I 4 [44<sup>b</sup> 4-9] 680a b
- 9 ARISTOTLE *Physics* f *Animals* K II CH 2 [648<sup>b</sup> 5 20] 173a
- 12 LUCRETIUS *Nature of Things* BK I [693-700] 9 BK V [379- 1] 49a 51a
- III AUGUSTINE *City of God* BK XIV CH 18 523a b
- 19 AQUINAS *Summa Theologiae* PART I Q 7 A 2 102a d Q 85 A 6 ANS 458d 459
- 25 MONTAGNE *Essays* 285 286a
- 28 HARRIS *Circular Motion of the Blood* 320b / *On a Universal Generation* 333c
- 30 BACON *Advancement of Learning* SI d 58b / *Novum Organum* BK I APH 6 108a APH 41 109c d A H 50 111b / *Natural History* 213d
- 31 DE CARTES *Rule* 1 13a b XII 18c 22c 23a / *Discourse* PART V 53b / *Meditations* 1 75a 77 III 83d 84 VI 101d 103d / *Objections* 1 124d 124d PO TULAT 130d 206c 207 229d 230d
- 31 SPINOZA *Ethics* PART I PROP 24-28 383c 384c PROP 40 SCHOL 2 PRO 4 388a
- 33 PASCAL *Penetrate* 9 173b
- 35 LOCKE *Human Understanding* K I CH XXV S T 2 238b c H XXVI CT 239b-d CH XXV S T 4 6245 246b BK V H IV E T 4 324c CH XI CT 3 355a b ECT 1 357b
- 35 BACON *Human Knowledge* INTRO T I 405 b CT 14 5 415-416 ECT 40 420b E 86-83 429c 430b
- 35 HUME *Human Understanding* SE T X DIV 117-123 504a 506a
- 42 KANT *Pure Reason* SO 108 109c esp 108a-d
- 43 MILL *Utilitarianism* 461 d
- 53 JAMES *Psychology* 460a-471a esp 468b-469 475-478b 508a 520a esp 508 519b 521 522 565 b 593a 626a p 593a 595a 601a 602a 606b 625a 618b [fn 1] 780 785a 851b 852a
- 54 FARADAY *Interpretation of Electricity* 148d 149a 337 c / *Uncertainty* 430b c

**3a Truth in the apprehensions of the sensitive faculty)**

**3a(2) Truth in the memory and imagination**

- 7 PLATO *Theaetetus* 538d 541a / *Philebus* 623d 624c
- ARISTOTLE *Metaphysics* BK IV CH 5 [1010<sup>b</sup> 12] 530a ■ BK V CH 29 [1021<sup>b</sup> 17 27] 546c d / *Soul* BK III C 1 3 [423 11 18] 660b / *Memory and Reminiscence* CH I [451 8 12] 692a
- 19 AQUINAS *Summa Theologiae* PART I Q 17 A 2 REP 2 102a d Q 54 A 5 ANS 288a d
- 29 CERVANTES *Don Quixote* esp PART I 1d 2b 4b c 18d 22a 44b 50b 52d
- 31 DESCARTES *Rules* XII 22c 23a / *Discourse* PART IV 53b / *Meditationes* I 75c 77c
- 31 SPINOZA *Ethics* PART II PROP 17 SCHOL 381b d PRO 35 SCHOL 386 b PROP 40 SCHOL I PROP 41 387b 388c PROP 44 COROL 1 and SCHOL 389c 390a
- 33 PASCAL *Pensees* 82-88 186b 189b
- 35 LOCKE *Human Understanding* BK IV CH XI SECT II 357b c
- 35 HUERTEL *Human Understanding* SECT II DIV II 455b c
- 40 GIBSON *Decline and Fall* 88c d
- 42 KANT *Pure Reason* 173b 174a
- 51 TOLSTOY *War and Peace* BK VII 294b 295a
- 53 JAMES *Psychology* 240a 241b 480a 484 esp 483b 498a 499a 527a 538b 662a 663a [fn 1]
- FREUD *Interpretation of Dreams* 341b 343c esp 342d 343b / *General Introduction* 597b 599b / *Ego and Id* 700c 701d

**3b Truth in the acts of the mind**

- 7 PLATO *Republic* BK VI 386d 388a / *Theaetetus* 536c 544a
- 8 ARISTOTLE *Soul* BK III CH 6 662d 663c CH 10 [433<sup>b</sup> 21 28] 665d 666a
- 9 ARISTOTLE *Ethics* BK VI CH 2 [139<sup>a</sup> 27 30] 387d 388a CH 3 [1139<sup>b</sup> 4 18] 388b
- 18 AUGUSTINE *Confessions* BK I 9 76a b / *City of God* BK III 16 269b c / *Christian Doctrine* BK I CH 9 627a
- 19 AQUINAS *Summa Theologiae* PART I Q 16 A 1 294b 96b Q 17 A 3 102d 103c Q 58 A 5 303c 304c Q 85 A 6 458d 459c Q 91 A 4 505 506a Q 106 A 1 AN 545d 546d Q 107 A 2 ANS 550b 551a PART I ■ 17 A 6 ANS 690b d
- 31 DESCARTES *Rules* VIII ■ b XII 18c 22c 23c / *Meditationes* III 82a 86d esp 85c IV 89a 93a esp 90b 91b / *Objections and Replies* 123d 125b 141 229d 230d
- 31 SPINOZA *Ethics* PART II PROP 44 D MONIST 389b c COROL DE O T 390a OR 48 391a ■ PRO 49 SC IOLOG 391d 394d
- 42 KANT *Pure Reason* 36b 37d 108 109c 110d 112d 115d 119 esp 118a c 174b d 193a ■ 233d 234b
- 53 JARVIS *Psychology* 867a 868b

**3b(1) The truth of ideas concepts and definitions**

- 7 PLATO *Cratylus* 85a 114a c passim esp 8 a 89a 104b 114a c / *Republic* BK II 323c 324c BK VI 386d 388a / *Seventh Letter* 809c 810d
- 8 ARISTOTLE *Categories* CH 4 [2 4 10] 6a / *Interpretation* CH I [16 9-18] 25a ■ / *To the Philosopher* CH I [139<sup>a</sup> 24 2] 192a ■ BK VI CH 4 BK VII CH 5 194c 211a c passim / *Metaphysics* BK V CH 29 [1024<sup>b</sup> 27 38] 546d 547a BK VI CH 4 [1027<sup>b</sup> 27 28] 550a BK IV CH 10 [1051<sup>b</sup> 3-33] 577d 578a / *Soul* BK III CH 6 [430<sup>b</sup> 6-35] 662d 663a [430<sup>b</sup> 26-30] 663b c
- 18 AUGUSTINE *Confessions* BK I par 19 76a b / *Christian Doctrine* BK II CH 35 653b c
- 19 AQUINAS *Summa Theologiae* PART I Q 2 A 1 REP 2 10d 11d Q 16 A 2 95c 96b Q 1 A 3 102d 103c Q 58 A 5 303c 304c Q 85 A 1 REP 1 451c-453c A 6 458d-459c Q 91 A 4 ANS 505a 506a
- 23 HOBBS *Leviathan* PART I 56b d
- 28 GALILEO *Two New Sciences* THIRD DAY 200a b
- 28 HARVEY *On Animal Generation* 333b d
- 30 BACON *Advancement of Learning* 57d 58b
- 31 DESCARTES *Rules* XII 21d 22a / *Meditationes* III 82a 86d esp 83a 85c IV 90b c / *Objections and Replies* DE III 130b AXIOM IV 131d 132a 156d 158a
- 31 SPINOZA *Ethics* PART I AXIOM 6 355d PROP 8 SCHOL 3 357b d PART II DEF 4 3/3b PRO 32 43 385c 389b
- 33 PASCAL *Vacuum* 373 b / *Geometrical Demonstration* on 430b 431b
- 35 LOCKE *Human Understanding* BK II CH XXV XXVII 238a 248b passim esp c i xxxiii 243c 248b BK III CH VI SECT 43 47 280c 282b passim
- 36 STANLEY *Trust and Shame* 234b-236b
- 42 KANT *Pure Reason* 36b 77b d 85b 87c esp 86b 87c 91d 93b 179d 182b 193a 215d 217a 233d 234b / *Preface to the Elements of Ethics* 367d 368a / *Judgement* 570b 572d
- 46 HEGEL *Philosophy of Right* INTRO par 1 2 9a 10a
- 53 JARVIS *Psychology* 299a 302a esp 299b 302b [fn 1] 305a 312a esp 307a 308a 669a 671a esp 671b [fn 1]

**3b(2) The truth of propositions the special problem of judgments about future contingencies**

- 7 PLATO *Euthydemus* 71c 74a / *Cratylus* 85a 86b 109a b / *Sophist* 561d 577b esp 575a 577b
- 8 ARISTOTLE *Categories* CH 4 [2 4 1] 6a CH 5 [4 10 19] 8b 9a / *Interpretation* CH I [16 9 18] 25 b CH 4 14 26a 36d passim esp c i 4 [17 1 4] 26b CH 7 26d 27d c i 9 28a 29d CH 14 35c 36d / *Metaphysics* BK IV CH 7 [1011<sup>b</sup> 25 29] 531c [1012 1 17] 531d

- 532 CH 8 [1012 29<sup>b22</sup>] 532b d BK VI CH 4  
 550a c K IX CH 10 [105 34<sup>b18</sup>] 577c d  
 / 50 / BK III CH 3 [427<sup>b16-25</sup>] 660 CH 6  
 [130 26<sup>b5</sup>] 662d 663a [430<sup>b26-31</sup>] 663b c
- 9 ARISTOTLE *Ethics* BK II CH 7 [1107<sup>a7</sup> 7 32]  
 352d 353a BK VI CH 2 [1139<sup>a21</sup> 31] 387d  
 388a
- 19 AQUINAS *Summa Theologica* PART I Q 3 A 4  
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- 19 AQUINAS *Summa Theologica* PART I Q 17  
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- 9 ARISTOTLE *Ethics* BK III CH I [1110<sup>b</sup>17 1114<sup>a</sup>  
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- 18 AUGUSTINE *City of God* BK XI CH 2 323c  
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- 43 MILL *Liberty* 276b 277a 283a 288c passim
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- 4a Truth in science and religion the truth of reason and the truth of faith
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- 19 AQUINAS *Summa Theologica* PART I Q I AA 1 2 3b-4c
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- 30 BACON *Advancement of Learning* 33c d 55b d 95d 101c
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 33 MILL *Liberty* 292b-293b  
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 24 9—(D) OT *Eccl esticus* 24 14  
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 7 PLATO *Cratylus* 113c 114a / *Phaedrus*  
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 8 ARISTOTLE *Categories* CH 5 [ 4 10<sup>b</sup> 12] 8b  
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 18 AUGUSTINE *Confessions* BK I pa 6 2b-c  
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*God* K VIII CH 7 269 d / *Christian Doctrine*  
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 3 REP 3 42c-43b Q 14 A 15 REP 3 89b-90b  
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 43 MILL *Liberty* 274b 293b pass m  
 46 HEEL *Philosophy of Rights* PR Id 2 6  
 7 P R III pa 2,0 85c WOTONS 115a d  
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 47 GORTIE *Fust Prelud* [73-74] 3  
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 51 TOLSTOY *War and Peace* BK V 216d 218b  
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 53 JA NES *Psychology* 879b-882a 889a 890a  
 6 The accumulation or accretion of truth and  
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 8 ARISTOTLE *S physical Refutations* CH 34  
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 9 ARISTOTLE *History of Animals* BK III CH 3  
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 34 39] 594d  
 10 HIPPOCRATES *Regimen in Acute Diseases* par  
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 10 GALEN *Natural Faculties* BK I CH 14, 178d  
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 13 TACITUS *Dialogus* BK III 49c  
 16 PTOLEMY *Almagest* BK I 6b  
 16 K PLATO *Epinome* BK IV 846a 850a / *Har-*  
*mony of the World* 1009b 1010a  
 18 AUGUSTINE *Confessions* XVII par 13 15 47c  
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 20 AQUINAS *Summa Theologica* PART II II  
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 23 HOBBS *Leviathan* PART I 56b d PART I  
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 25 MONTAGNE *Essays* 271a-c 276b 278a  
 27 SHAKESPEARE *Coriolanus* ACT II SC III [119-  
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 28 GILBERT *Loadstone* PREF 2b d  
 28 HARVEY *Motion of the Heart* I 267b d 269  
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*the Blood* d 306a c / *On Animal Generation*  
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 30 BACON *Advancement of Learning* g 14c 15d  
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 31 DESCARTES *Discourse* 41a 67a esp PART  
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 32 MILTON *Argument* p g t a 381a-412b esp 384b  
 389 398 b 404a B  
 33 PASCAL *Calcul des Probabilities* 357a 358a  
 35 LOCKE *Human Understanding* 85a-c 89a b  
 36 SWINBURNE *Gertrude* II 118 119  
 36 STERN *Tristram Shandy* 224b 225a  
 38 ROUSSEAU *Inequality* 330a d 346d 347a

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- 40 GI BON *Decline and Fall* 23d 24a  
 41 GIBBON *Decline and Fall* 274a d 298a 300b  
 42 KANT *Pure Reason* 1d 2b [fn 2] 5d 6c  
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 336d 337a = / *Judgement* 513d 514b  
 43 MILL *Liberty* 274b 293b *passim* esp 280a c  
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 44 BOSWELL *Johnson* 129a 222a  
 45 FARADAY *Researches in Electricity* 332a b  
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 49 DARWIN *Descent of Man* 590a  
 51 TOLSTOY *War and Peace* bk v 196a b bk  
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 53 JAMES *Psychology* 37b 125b 126a  
 54 FREUD *Psychoanalytic Therapy* 125d 126a  
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7 The skeptical denial of truth

7a The impossibility of knowing the truth the restriction of all human judgments to degrees of probability the denial of axioms and of the possibility of demonstration

- 7 PLATO *Euthydemus* 72d 73a / *Cratylus* 86a d 107d 109a / *Phaedo* 236c 238a / *Theaetetus* 517b 532 *passim* esp 517b-c 522b 525a 526c 531b 532a  
 8 A ISTOTLE *Posterior Analytics* bk i ch 3 [72<sup>b5</sup>-33] 99b c / *Metaphysics* bk iv ch 3-8 524b-532d bk x ch i [1053 31<sup>b3</sup>] 580a ch 6 [1057<sup>7</sup> 11] 584b bk x ch 5-6 590a 592b  
 12 LUCRETIVUS *Nature of Things* bk iv [469-477] 50b  
 12 EPICETUS *Discourses* bk ii ch 20 164c 166c  
 18 AUGUSTINE *Confessions* bk v par 19 32b c / *City of God* bk xiv ch 18 523a b  
 19 AQUINAS *Summa Theologica* PART I Q 16 A 1 REP 2 94b 95c Q 85 A 2 ANS 453d 455b  
 25 MONTAIGNE *Essays* 80b 82b 208a 294b esp 240c 246a 257d 264 270a 279c 285c 294b 308c d 318 319b 439c 440a 497d 502c 517b-519a  
 30 BACON *Advancement of Learning* 13a-c 5 d 58b / *Novum Organum* bk i aph 67 115d 116a  
 31 DESCARTES *Meditations* v 95d 96a / *Objections and Replies* 206c 207a 272a 273a  
 33 PASCAL *Pensées* 378 238a 912-922 349b 351b  
 35 LOCKE *Human Understanding* INTRO SECT 4-7 94a 95c esp SECT 7 95a =  
 35 BERKELEY *Human Knowledge* PREF 404a INTRO SECT 1-5 405a d SECT 40 420b SECT 85-91 429c 431a SECT 101 103 432c 433a SECT 133 439c-440a  
 35 HUM *Human Understanding* SECT I DIV 8-9 454b 455a SECT XII DIV 126 128 507a 508a  
 42 KANT *Pure Reason* 129c 130 200c 218d 222b 224a 227a / *Practical Reason* 294c 295d 311d 313d  
 44 BOSWELL *Johnson* 121c d 126b  
 46 HEGEL *Philosophy of Right* PR = 3b-5c 7a PART III par 272 90a  
 53 JAMES *Psychology* 671 672a  
 54 FREUD *New Introductory Lectures* 881d 882b

- 224a 227a / *Practical Reason* 294c 295d 311d 313d  
 46 HEGEL *Philosophy of Right* PREF 2b-c 3b-5c 7a PART I par 44 23c PART III par 2, 4 86b c / *Philosophy of History* INTRO 159b c  
 47 GOETHE *Faust* PART I [354 429] 11a 12b [656-675] 17b 18a [1064 1067] 26b [1908-1945] 45b 46a  
 50 MARX ENGELS *Communist Manifesto* 427a b 428b d  
 51 TOLSTOY *War and Peace* bk v 194b-195a  
 53 JAMES *Psychology* 884b 886  
 54 FREUD *New Introductory Lectures* 881d 881a

- 7b The defense of truth against the skeptic  
 7 PLATO *Cratylus* 86b d 113c 114a = / *Meno* 179b 183b esp 179d 180b 182c 183b / *Theaetetus* 517b 532c esp 527b-528c  
 8 ARISTOTLE *Metaphysics* bk iv ch 4-8 525a 532d bk xi ch 6 590d 592b  
 12 LUCRETIVUS *Nature of Things* bk iv [469-521] 50b-51a  
 12 EPICETUS *Discourses* bk ii ch 20 164c 166c  
 18 AUGUSTINE *City of God* bk xiv ch 18 523a b  
 19 AQUINAS *Summa Theologica* PART I Q 2 A 1 R 3 10d 11d Q 16 A 1 REP 2 94b 95c Q 85 A 2 ANS 453d 455b  
 30 BACON *Advancement of Learning* 13a-c 5 d 58b / *Novum Organum* bk i aph 67 115d 116a  
 31 DESCARTES *Meditations* v 95d 96a / *Objections and Replies* 206c 207a 272a 273a  
 33 PASCAL *Pensées* 378 238a 912-922 349b 351b  
 35 LOCKE *Human Understanding* INTRO SECT 4-7 94a 95c esp SECT 7 95a =  
 35 BERKELEY *Human Knowledge* PREF 404a INTRO SECT 1-5 405a d SECT 40 420b SECT 85-91 429c 431a SECT 101 103 432c 433a SECT 133 439c-440a  
 35 HUM *Human Understanding* SECT I DIV 8-9 454b 455a SECT XII DIV 126 128 507a 508a  
 42 KANT *Pure Reason* 129c 130 200c 218d 222b 224a 227a / *Practical Reason* 294c 295d 311d 313d  
 44 BOSWELL *Johnson* 121c d 126b  
 46 HEGEL *Philosophy of Right* PR = 3b-5c 7a PART III par 272 90a  
 53 JAMES *Psychology* 671 672a  
 54 FREUD *New Introductory Lectures* 881d 882b

8 The moral and political aspect of truth

8a Prevarication and perjury the injustice of lying or bearing false witness

- OLD TESTAMENT *Genesis* 4 8 10 27 397 / *Exodus* 20 16 23 17 / *Leviticus* 6 2 7 19 11 18 / *Deuteronomy* 5 20 19 15 21 / *II Chronicles* 18-(D) 11 *Paralipomenon* 18 / *Job* 8 1 18 27 3 4 8 10 / *Psalms* 5 6 15 1 2 24 3 4 31 18 34 11 13 43 1 50 16-21 52 1-5 55-23 101 7 119-29-3 120 1 3-(D) *Psalms* 5 7 14 1 3 23 3 4 30 19 33 12

- 14 4 1 49 16-1 51 1 7 54 24 100 7 118  
29-3 119 1 3 / *Proverbs* 3 6 16-19 8 7-9  
10 18 11 9 1 17 22 13 5 14 5 17 4 7  
19 5 9 22 20 17 23 21 6 28 4 26 25 18  
26 8 28 30 5-9 / *Isaiah* 9 13 17 28 14 18  
59 pass m—(D) *Isa* 9 13 17 28 14-18 59  
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23 16-40 / *Nah* m 3 1 / *Zech* n h 8 16-19—  
(D) *Zach* i s 8 6-19 / *Malachi* 2 1-9 3 3-  
18—(D) *M l ch* s 1-9 3 5 8  
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OT Book f Wisdom 1 / *Ec l* s ast cus  
1 18-30 4 2 7 12 13 15 8 19 26-28 20  
18 24 26 25 2 27 9 34 4 41 17 51 3—  
(D) OT *Ec l* ant cu 1 37 40 4 30 7 13 14  
15 8 19 3 6 20 20 6-8 2 3 4 27 10  
34 4 41 21 5 1-5 / *Susanna*—(D) OT *Dan*  
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26 55 7 8 11 15 / *Ma k* 14 48 2 / *Luk*  
3 14 22 54-62 / *J hn* 8 44 18 5 27 / *Acts*  
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10 / *I Tim* thy 2 7 4 3 / *Titus* 2 3 / *Jamer*  
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5 EURIPID *s Phoenician Maidens* [861-961]  
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6 HERODOTUS *Hist y* h 1 105c d BK V  
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7 PL TO *E thyph* n 192a 193b / *Ap lo y* 208c  
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8 ARISTOTLE *Phys ics* K VIII CH 1 28 b1  
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9 ARISTOTLE *Ethics* BK IV H 7 374b 375a /  
*Rhetoric* K CH 4 [375 8-13] 619c CH 1 2  
[1377 8-] 621d 622d  
10 AURELIUS *M d ias* BK X SECT I 291 b  
18 AL U TIN *Ch it* *Do it* BK 36  
634d 635b  
19 AQUINA *Summa The l g ca* P BY Q 2  
A 2 RE 2 125 d  
20 AQUINAS *Summa The log* P R II Q  
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33 34c esp [4 144] 34c XX V [37] XXK  
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25 MONTIGN *Es ys* 16 17 314d 316a  
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32 MILTON *P dise Lo t* BK V [4 25] 155a  
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35 LO K *T ler* 14a  
36 SWIFT *G lli er* PART IV 146b  
37 FIELDI *n Tom Jones* 40b 41a 66c d 130d  
131a 295b 318d 319a 382b  
40 CI ROU *Decline and Fall* 215b 216a 296b  
42 KANT *Fund Prin Metaphysic of Morals*  
260a c 267d 268a 269a c 272c d / *Science*  
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43 MILL *Liberty* 280d 281c / *Utilitarianism*  
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44 BOSWELL *J hnson* 2d 3a 99a 124a 157c d  
372c 373a 377b 542a-c  
46 HEGEL *Phil s phy of Right* PART II par 140  
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51 TOlstoy *War and Peace* K III 134a-c BK  
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441 b  
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4 HO ER *Ihad* BK XIV [301 36] 101b-d /  
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5 SOPHOCLES *Trachiniae* [335 496] 173a 174c  
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6 HERODOTUS *History* BK III 105c d BK VI  
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6 THUCYDIDES *Peloponne an W a* BK II  
427b c  
7 PLATO *Republic* BK II 323c 324a BK III  
326b c 340b 341a / *Laus* K II 658a-c  
13 VIRG *Aeneid* h II [1 246] 124a 131a  
14 PLUTARCH *Alcibiades* 160b 161b / *Lysander*  
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15 TACITUS *H itories* BK III 256a b  
21 DANTE *Divine Comedy* HELL, XXVI-XXVII  
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23 M H 1 *Prin ce* CH XVI 1 25a 26a  
25 MONTIGN *E ys* 11b-13 16a 17 306a-d  
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38 MONTESQUIU *Spirit of Laws* K XII 94  
40 GI ON D *Ine a d Fall* 48a  
43 M *Liberty* 277b 278a / *Utilitaria m*  
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44 BOSWELL *Johnson* 212a d  
49 DAR V *D s t of Man* 315a b  
54 FR UD *I terpret ion f Dreams* 197c d /  
*W and Death* 757b  
8c T uth n rel t ion to love nd f ndship  
the pl s nt nd the unple nt truth  
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5 EU P D *Ph enician M idens* [86 96]  
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7 P LTO *Symp um* 161b d / *Ap logy* 201d  
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9 AR TOTLE *Eth* K CH III [096 11 6]  
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(8) *The moral and political aspect of truth* 8c  
*Truth in relation to love and friendship*  
*the pleasant and the unpleasant truth*

- 12 EPICTETUS *Discourses* BK IV CH I 213a 223d  
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 12 AURELIUS *Meditations* BK VI SECT 21 276a  
 14 FLUTARCH *Cimon* 300b d  
 15 TACITUS *Annals* BK II 26b  
 19 AQUINAS *Summa Theologica* PART II Q 38  
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 20 AQUINAS *Summa Theologica* PART II Q 100  
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 21 DANTE *Divine Comedy* HELL XI [16-66]  
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 22 CHAUCER *Nuns Priest's Tale* [15 28<sup>c</sup> 452]  
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 25 MONTAIGNE *Essays* 307a 320c 321a 323  
 324b 522b d  
 26 SHAKESPEARE *2nd Henry IV* ACT I SC I [60-  
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 27 SHAKESPEARE *Troilus and Cressida* ACT III  
 SC II [165 212] 121d 122b / *Antony and Cleo-  
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 28 HARVEY *On Animal Generation* 331c 332a  
 31 D SCARTES *Rules* 1 d  
 33 PASCAL *Pensées* 100 101 191a 192b / *Geo-  
 metrical Demonstrations* 440a b  
 35 LOCKE *Human Understanding* 87a b  
 44 BOSWELL *Johnson* 94b 106d 299b d 393  
 402a c 542a c  
 49 DARWIN *Descent of Man* 315b  
 51 TOLSTOY *War and Peace* BK VI 247d 248a  
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 52 DOSTOEVSKY *Brothers Karamazov* BK II  
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 54 FREUD *General Introduction* 453a

8d *Civility as a condition for discovering  
 the truth of freedom of thought and dis-  
 cussion*

- 5 SOPHOCLES *Antigone* [499-51] 135b c [683  
 739] 137a c  
 6 HEROTUS *History* BK VII 216d 217a  
 6 THUCYDIDES *Peloponnesian War* BK II  
 397b c XIII 427a c  
 7 PLATO *Apology* 200a 210b passim / *Symposium*  
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 15 TACITUS *Histories* BK I 189a b  
 23 HOBBS *Leviathan* PART II 102d 103a  
 31 D SCARTES *Objections and Replies* 283c d  
 32 MILTON *Areopagitica* 381a 412b esp 383b  
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 35 LOCKE *Tolerance* 1a 22d esp 4a 9 10 15  
 / *Human Understanding* BK IV CH III 3 CT 20  
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 35 HUME *Human Understanding* SECT XI D  
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- 38 MONTESQUIEU *Spirit of Laws* BK XIV 146  
 40 GIBSON *Decline and Fall* 669a 671b pas-  
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 41 GIBSON *Decline and Fall* 300a 523a  
 42 KANT *Pure Reason* 220b 221b 223a c  
 43 CONSTITUTION OF THE US AMENDMENTS I  
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 43 MILL *Liberty* 274b 293b passim 293d 297b-  
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 44 BOVILL *Johnson* 221d 224a 300c 301a  
 512c d  
 46 HEGEL *Philosophy of Right* PART III PAR 314  
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 54 FREUD *New Introductory Lectures* 879b-880b

8e *The love of truth and the duty to seek it:  
 the moral distinction between the  
 sophist and the philosopher martyrdom  
 to the truth*

- OLD TESTAMENT *Psalms* 151 2 25 45 433  
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 42 3 50 8 118 30 / *Proverbs* 23 23  
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 16 14 20 / *Luke* 24 46-48 / *John* 8 31 32  
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 6 14 / *James* 3 13 18 / *1 Peter* 2 1 2  
 6 HERODOTUS *History* BK VII 239a c 342c d  
 6 THUCYDIDES *Peloponnesian War* BK II 397b c  
 7 PLATO *Lysis* 22b c / *Protagoras* 54c 55a /  
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 8 ARISTOTLE *Metaphysics* BK IV CH 2 [1004<sup>b</sup>  
 27] 523d  
 9 ARISTOTLE *Parts of Animals* BK I CH 5 [614<sup>b</sup>  
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 12 EPICTETUS *Discourses* BK CH 2 107d 108b  
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 12 AURELIUS *Meditations* BK I SECT 14 254b c  
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 16 HELER *Homages of the World* 1009b  
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- I Works by authors represented in this collection
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## Chapter 95 TYRANNY

### INTRODUCTION

Any point in political theory is indisputable if it would seem to be that tyranny is the worst corruption of government—a vicious misuse of power and a violent abuse of the human beings who are subject to it. Aristotle's remark that no freeman if he can escape from it will endure such government would seem to express the sentiments of all who loving liberty and abhorring slavery look upon tyranny as destroying the one and establishing the other.

Certainly the word *tyranny* is seldom if ever used eulogistically. Such phrases as a just tyranny or a good tyrant are at once seen to be as self-contradictory as a round square. The great books of history gave the impression that tyrants and despots who vastly outnumber good rulers are always objects of hate and fear, never of love and admiration. If there are exceptions if there are peoples who willingly submit to or even deserve the yoke of despotism and tyranny they are in the judgment of ancients and moderns alike politically primitive.

The traditional association of the word *despotism* with *tyranny* requires us to consider whether our understanding of these terms is as uniformly clear as the denunciation of what they denote seems to be universal. Are despotism and tyranny the same? It may be thought that the tyrant must always have despotic power at his disposal, power unlimited by law so that the lawless ruler is at once both despot and tyrant. But need the despot the absolute ruler always rule tyrannically?

The familiar phrase *benevolent despotism* once suggests the negative answer and also some line of distinction between despotism and tyranny. Tyranny can never be benevolent. But despotism may be no worse than paternalism. While its injustice may consist in treating adults to govern themselves as if they were children it may also derive an air of jus-

tice from the fact that the despot like the father rules his subjects for their own good. If he treats them like slaves rather than children exploiting them to serve his own interests then he is not a benevolent but a tyrannical despot.

This understanding of the meaning of despotism and tyranny seems to be only partly supported by their etymology. The Greek word from which despot comes signifies the head of a household the *paterfamilias* (as he is called by the Romans) who exercises the absolute authority of a master over chattel slaves and of a parent over his children. In contrast the Greek word *tyrannos* refers to the ruler of a state rather than a family and is sometimes used as if it were equivalent in meaning to king. Yet both words carry the connotation of absolute power and when in addition the subjects of a tyrant are considered to be no better off than slaves the difference in the meaning of the two words almost disappears.

The difficulty of grasping what is essential to the nature of tyranny and despotism seems to be complicated by certain criteria originally proposed by the Greeks for distinguishing between king and tyrant or between royal and despotic rule. Both Plato and Aristotle speak of the king as a good monarch and the tyrant as a bad one. Both say that monarchy or rule by a single man is royal when it is for the welfare of the ruled and tyrannical when it serves only the interests of the ruler. Both make lawlessness—either a violation of existing laws or government by personal fiat without settled laws—a mark of tyranny.

Yet for Aristotle at least some of these criteria also apply to despotism and even to royal government insofar as these are distinguished from political or constitutional government—government by law rather than by men. Furthermore the association of either tyranny or

despotism with monarchy—rule by *one* man whether just or unjust—seems to be counterbalanced by Aristotle's discussion of the tyranny of the *few* and of the *many*. In a monarchy the king can turn tyrant but so can the wealthy become despotic in an oligarchy or the poor in a lawless democracy.

The nature of tyranny thus seems to be more difficult to define precisely than would at first appear from the almost universal condemnation of it as the worst perversion of government.

To some extent the difficulties may be verbal. The word *tyranny* is used with many meanings not only by the Greeks but through the tradition of the great books. Some writers identify tyranny and despotism; some distinguish the two sharply. Some writers consider tyranny and despotism only in connection with monarchy; some extend the consideration to other forms of government. The words are sometimes used descriptively without the connotation of good or evil and sometimes they are more derogatory than descriptive.

Even when the necessary verbal clarifications are achieved, genuine issues still remain. Conflicting accounts are given of the causes of tyranny or the circumstances from which it develops. Concerning despotism some writers take the position that it may be justified by conquest or by the need of a people for absolute government or in the form of a temporary dictatorship by emergency conditions. Not even the condemnation of tyranny seems to be unanimous: if the views of Hobbes are to be reckoned with, nor among those who condemn tyranny is the fairly general approval of tyrannicide free from the strong dissenting voice of Kant.

THE FOREGOING INDICATES how the notions of tyranny and despotism are involved in other chapters dealing with the various forms of government and in addition such chapters as JUSTICE, LIBERTY and SLAVERY. The distinction for example between domestic and political slavery bears on one of the ways in which despotism and tyranny are distinguished and the discussion in the chapters on MONARCHY and CONSTITUTION concerning absolute and limited government raises a question which must also be considered here, namely whether absolute

monarchy can be distinguished from despotism and whether it has an inveterate tendency to become tyrannical.

That question deserves immediate attention, because its answers are connected with opposed views of the justice or defensibility of tyranny and despotism. Plato and Aristotle for example treat tyranny as the prototype of political injustice and the tyrant as the extreme case of the vicious man; yet there are passages which appear to have a contrary tenor. In the *Lysis* the Athenian Stranger proposes a good tyrant as the best means for establishing the laws. To the question, "What are the conditions which you require in a state before you can organize it?" he thinks the legislator's answer should be:

Give me a state which is governed by a tyrant and let the tyrant be young and have a good memory; let him be quick at learning and of a courageous and noble nature—in short let him have temperance and every other virtue.

More readily than monarchy, democracy or oligarchy, tyranny is the stepping stone to the best state according to the Athenian Stranger because it involves the greatest power concentrated in a single man. The combination of virtue and power may rarely be found but he says when the supreme power in man coincides with the greatest wisdom and temperance then the best laws and the best constitution come into being and in no other way.

Aristotle's classification of the types of kingship or the forms of royal government seems to include tyranny among them. He refers to the kind of monarchy which prevails among the barbarians who being more servile in character than Hellenes do not rebel against a despotic government. Such royalties he goes on to have the nature of tyrannies because the people are by nature slaves but there is no danger of their being overthrown for they are hereditary and legal. Even among the Hellenes in ancient times Aristotle points out there was a form of monarchy or dictatorship that may be defined as an elective tyranny which like the barbarian monarchy is legal but differs from it in not being hereditary.

These two forms of tyranny Aristotle says elsewhere are both according to law and therefore easily pass into royalty. The line be-

tween king and tyrant is not however as shadow might first appear. Kings rule according to law over voluntary subjects but tyrants over involuntary and the one are guarded by their fellow citizens the others are guarded against them. The forms of monarchy which Aristotle also calls tyrannies seem to him to have a mixed character. They are royal he says in so far as the monarch rules according to law over willing subjects but they are tyrannical in so far as he is despotic and rules according to his own fancy. But there is also a kind of tyranny which being unmixed is the counterpart of perfect monarchy. This tyranny is just that arbitrary power of an individual which is responsible to no one and governs all alike whether equals or better with a view to its own advantage not to that of its subjects and therefore against their will.

Aristotle explains his association of tyranny with monarchy on the ground that both are forms of one man rule but he adds there is the greatest difference between them the tyrant looks to his own advantage the king to that of his subjects. Tyrannical government is monarchy exercising the rule of a master over political society and therefore deserves to be called despotic as well as tyrannical. When it has no admixture of royalty tyranny is not only self serving but lawless rule. It is the very reverse of a constitution or rule by law. Except for the hypothetical case in which the truly superior the almost god like man is king Aristotle seems to identify absolute or unconstitutional monarchy with tyranny and despotism and he condemns both for violating the very nature of the state conceived as a community of free men.

THE LINE BETWEEN KING and tyrant is similarly drawn by Plato. Monarchy for him divides into royalty and tyranny according as one man rules by law or lawlessly over voluntary or involuntary subjects. If the one man were like a god in relation to other men it would be fitting for him to rule the state by his wisdom or science and without recourse to laws. If there could be such a despot the Elcatic Stranger says in the *Statesman* he alone would be the happy ruler of a true and perfect state but men can never be made to believe that

any one can be worthy of such authority (History suggests the contrary in such cases as Caesar Napoleon and Hitler).

Giving the name of king to the monarch who abides by and maintains established laws the Stranger gets Socrates to agree that the ruler should be called a tyrant when he governs neither by law nor by custom but imitating the true man of science pretends that he can only act for the best by violating the laws while in reality appetite and ignorance are the motives of the imitation.

In the *Republic* Socrates refers to Euripides' praise of tyranny as god like and gives as another reason for excluding the poets from the state the fact that they are the eulogists of tyranny. Far from being god like the tyrannical man as described by Socrates as drunken lustful passionate Tyrants are always either the masters or servants and never the friends of anybody the tyrant never tastes of true freedom or friendship. Oriental despotism Hegel later writes appears to give freedom to one man but the freedom of that one is only caprice ferocity—brutal recklessness of passion.

That one is therefore only a despot not a free man.

According to Plato tyranny is not only the greatest evil a state can suffer but the tyrant is also the unhappiest of men. Will not he who has been shown to be the wickedest Socrates ask be also the most miserable? Polus in the *Gorgias* tries to prove that like the successful criminal who goes unpunished the tyrant who does injustice to everybody but suffers none achieves more happiness than other men. But Socrates taking the position that it is better to suffer than to do injustice argues to the contrary that the tyrant is more miserable than those whom he oppresses.

If this is true the confirmed tyrant is probably the man least able to perceive or acknowledge it. Plutarch reports the story of Plato's first meeting with Dionysius the tyrant of Syracuse. When Plato tried to prove to him that tyrants of all men had the least pretence to virtue and that since they lacked just ce they suffered the miserable condition of the unjust Dionysius would not hear the argument out. He asked the philosopher in a rage. Plutarch relates what business he had in Sicily.

ily To which Plato answered I come to seek a virtuous man It seems then replied Dionysius you have lost your labor According to Plutarch Dionysius tried to have Plato killed on his return voyage to Greece or failing that to have him sold into slavery He would not be harmed by that Dionysius reasoned because being the same just man as before he would enjoy his happiness though he lost his liberty

ON THE WHOLE THEN Aristotle's and Plato's disapproval of tyrants and tyranny seems to be unequivocal The passages which might cause this to be questioned can perhaps be accounted for by the ancient tendency to use the word tyrant descriptively to denote the possessor of absolute power Yet even in the *Laus* where such usage occurs Plato observes that kings unable to sustain the temptation of arbitrary power tend to overthrow the laws and so become tyrannical in the invidious sense of the word

With the exception of Hobbes mediaeval and modern writers are no less disapproving than the ancients Tyrannical government according to Aquinas is altogether corrupt and completely lawless It is the tyrant himself rather than those who may rebel against a government so lacking in justice who is guilty of sedition since he encourages discord and sedition among his subjects that he may lord over them more securely When a king by becoming a tyrant has dethroned himself and put himself in a state of war with his people what shall hinder them asks Locke from prosecuting him who is no king as they would any other man who has put himself in a state of war with them?

In Locke's view it is a mistake to think that the fault of tyranny is proper only to monarchies For wherever the power that is put in any hands for the government of the people and the preservation of their properties is applied to other ends and made use of to impoverish harass or subdue them to the arbitrary irregular commands of those that have it there it presently becomes tyranny whether those that thus use it are one or many Wherever law ends tyranny begins if the law be transgressed to another's harm

Tyranny is thus defined by Locke as the

exercise of power beyond right which nobody can have a right to Such absolute arbitrary power or governing without settled standing laws can neither of them consist with the ends of society and government Tyranny so defined may not be limited to monarchies but according to Locke absolute monarchy is always tyrannical For that very reason it is he writes inconsistent with civil society and so can be no form of civil government at all

What Locke calls tyranny or without change of meaning absolute monarchy Kant calls autocracy But Kant distinguishes the monarch who has the *highest* power from the autocrat who has *all* power Hegel calls despotism that state of affairs where law has disappeared and where the particular will as such whether of a monarch or a mob counts as law or rather takes the place of law The writers of the *Federalist* use the words tyranny and despotism interchangeably but do not vary from the definition which Montesquieu gives of despotic government as that in which a single person directs everything by his own will and caprice In all other governments even in monarchy when it is constitutional the separation of powers puts some limitation on the power entrusted to the offices of state

Following Montesquieu's doctrine Madison declares The accumulation of all powers legislative executive and judiciary in the same hands whether of one a few or many and whether hereditary self appointed or elective may justly be pronounced the very definition of tyranny He reinforces his point by quoting Jefferson's dictum that concentrating all the powers of government in the same hands is precisely the definition of despotic government

HOBBS SEEMS TO BE the one exception in the great books to this variously expressed opinion of the evil of absolute power Locke may have him in mind when he says that absolute monarchy is by some men counted the only government in the world Certainly Hobbes would not repudiate the charge that he thinks none but absolute government feasible nor is he dismayed by the tendency of other writers

to call absolute government tyrannical or despotic. On the contrary he dismisses this as so much empty name calling.

In every form of government according to Hobbes the sovereign power must be absolute to be effective. Though of so unlimited a power men may fancy many evil consequences yet the consequences of the want of it which is perpetual war of every man against his neighbor are much worse. Describing the absolute dominion of the father over his children and the equally absolute dominion of the master over his slaves Hobbes says that the rights and consequences of both paternal and despotic dominion are the very same with those of a sovereign by institution for unless the sovereign is also absolute there is no sovereignty at all.

To the cry Tyranny Hobbes replies that just as men who find themselves grieved under a Democracy call it Anarchy or those who are displeased with Aristocracy call it Oligarchy so they that are discontented under Monarchy call it Tyranny. He holds Aristotle's Politics responsible for spreading the fallacy of regarding anything except popular government as tyrannical and in general he blames the Greek and Roman writers for fomenting sedition against kings by treating tyrannicide as lawful.

Hobbes offers an historical explanation of the origin of these confusions. A Tyrant he writes originally signified no more simply but a Monarch. But when afterwards in most parts of Greece that kind of government was abolished the name began to signify not only the thing it did before but with it the hatred which the popular states bore towards it as also the name of king became odious after the deposing of the kings of Rome.

A word like tyranny carries only emotional force. Used descriptively Hobbes declares it signifies nothing more nor less than the name of Sovereignty saving that they that use the former word are understood to be angry with them they call Tyrants. He is willing to make himself the object of that anger by identifying a professed hatred of Tyranny with hatred to Commonwealth in general and by regarding the toleration of both hatreds alike as evil seeds of sedition.

IN ONE NEGATIVE RESPECT Rousseau seems to agree with Hobbes. Not that the man who holds that only republican institutions are legitimate in any way accepts the identification of either prince or popular government with sovereign power. But he like Hobbes rejects Aristotle's distinction between the king and the tyrant as good and bad monarchs the one governing for the good of his subjects the other in his own interest. Rousseau contends not only that most Greek authors used the word tyrant in a different sense but also he adds it would follow from Aristotle's distinction that from the very beginning of the world there has not yet been a single king.

It is only according to a vulgar usage that a tyrant is conceived as a king who governs violently and without regard for justice or law. The more precise conception Rousseau insists defines the tyrant as an individual who arrogates to himself the royal authority without having a right to it. This is how the Greeks understood the word tyrant they applied it in differently to good and bad princes whose authority was not legitimate. Tyrant and usurper are thus perfectly synonymous terms.

The usurpation of power is according to Rousseau the root of both tyranny and despotism but they are not for that reason to be confused. I call him who usurps the royal authority a tyrant Rousseau writes and him who usurps the sovereign power a despot. The tyrant is he who thrusts himself in contrary to the laws to govern in accordance with the laws the despot is he who sets himself above the laws themselves. Thus the tyrant cannot be a despot but the despot is always a tyrant.

Other writers distinguish between tyranny and despotism on different principles. They accept where Rousseau rejects the notion that tyranny is not merely a usurpation of power but always a self-serving or unjust use of that power. They reject Rousseau's conception of despotism as inseparable from usurpation. Absolute power can be gained and held in other ways.

Locke for example conceived despotical dominion as the rule of a master over slaves or the government of a vanquished people by their conquerors in a just war. Despotical power in his opinion is an absolute arbitrary power

one man has over another to take away his life whenever he pleases. Unlike tyranny it is not power beyond right for the conqueror if he have a just cause has a despotical right over the persons of all that actually aided and concurred in the war against him. Since in Locke's view a usurper can never have right on his side despotism when justified is not achieved by usurpation.

For Montesquieu despotisms constitute one of the three major forms of government the other two being republics (aristocratic or democratic) and monarchies. Though he regards despotism as an intrinsically corrupt form of government in which the rulers wield personal power without the restraint of law he also judges it to be appropriate to the servile natures or temperaments of certain peoples. Like Aristotle and Hippocrates before him he attributes to the climate and disposition of the Asiatic peoples their submissiveness to the worst excesses of despotism.

Montesquieu does not so much condemn despotism as he deplores the conditions which seem to render it necessary or natural for a large part of mankind. He does not suggest as Mill does that despotism can and should serve to civilize those who are as yet unprepared for self government. Despotism is benevolent according to Mill only if it prepares a people for freedom if it tries to perpetuate itself it is tyrannical or enslaving.

Though Mill holds the view that relative to a free society there cannot be a good despot no matter how benevolent his intentions he also thinks that in dealing with barbarians despotism is a legitimate mode of government provided the end be their improvement and the means justified by actually effecting that end. Liberty as a principle has no application to any state of things anterior to the time when mankind has become capable of being improved by free and equal discussion. Until then there is nothing for them but implicit obedience to an Akbar or a Charlemagne if they are so fortunate as to find one.

Under certain conditions of society a vigorous despotism according to Mill is in itself the best mode of government for training the people in what is specifically wanting to render them capable of a higher civilization.

In his opinion still other conditions justify despotism. I am far from condemning he writes, in cases of extreme emergency the assumption of absolute power in the form of a temporary dictatorship. In another place he says that the establishment of the despotism of the Caesars was a great benefit to the entire generation in which it took place because it put a stop to civil war and abated a vast amount of malversation and tyranny by praetors and proconsuls.

But in all these cases the essential point is that the despotism should be temporary. Mill applies the same criterion to the despotism which occurs in the government of colonial dependencies. It should aim to benefit a subject people by training them in the arts of government and it should not seek to outlast the conferring of this benefit. The ruling country he thinks, ought to be able to do for its subjects all that could be done by a succession of absolute monarchs guaranteed by irresistible force against the precariousness of tenure of barbarian despotisms. Such is the ideal rule of a free people over a barbarous or semi barbarous one.

This may be the ideal but critics of imperialism like Swift or Marx think that colonial policies are in fact otherwise motivated—by land grabbing by the desire for national aggrandizement and by the profits to be made from the economic exploitation of colonies or subject peoples. Throughout the pages of Thucydides and Tacitus the spokesmen for empire dwell upon the blessings which Athenian or Roman rule bestow only to be answered by the protests of the colonists or the conquered who seem to prefer the insecurities and uncertainties of liberty to the mixed motives of even the best despot.

AS ALREADY INDICATED the political significance of tyranny and despotism is broader than the conception of the tyrant as an unjust king or of the despot as an absolute monarch. The reign of the Thirty Tyrants at Athens and of the Decemviri at Rome are classical examples of oligarchical tyranny. Advocates of republicanism or democratic institutions like the writers of the *Federalist* or J. S. Mill are as much concerned to safeguard constitutional or representative government from the tyranny of special interests—whether of a dominant majority or

of concentrated wealth—as they are to protect the rule of law from the encroachments of despotism which begin with usurpations of power by elected officials

Moderns and ancients alike fear the susceptibility of the mob to the wiles of the demagogue who encourages their lawlessness in order to take the law into his own hands. Both Hegel and Plato see in the alliance between a scheming demagogue and an unruly populace the step by which a corrupt democracy turns into a tyranny. Though Aristotle disagrees with what he takes to be the theory of Socrates in the *Republic* that tyranny normally arises from democracy in the progressive degeneration of the state, his own opinion seems to be that tyranny is a compound of oligarchy and democracy in their most extreme forms and that almost all tyrants have been demagogues who gained the favor of the people by their accusation of the notables.

These aspects of tyranny are discussed in the chapters on DEMOCRACY and OLIGARCHY. The traditional emphasis, however, is on the individual tyrant, whether he is an hereditary prince who misuses his autocratic power, the usurper of an established throne, or the demagogue who makes himself dictator. However tyranny arises, monarchy is the form it usually takes in the pages of history or poetry—the domination of the state by one man. But while the great political philosophers offer conflicting theories of the origin of tyranny, there seems to be remarkable agreement concerning the methods the tyrant uses to maintain himself in power.

Other political practices may vary greatly from one historical epoch to another, but the devices of tyranny seem to have a certain timelessness. When they are describing the actions of the tyrant, Herodotus, Plutarch, Tacitus, and Gibbon tell stories of inquiry of cruelty of cowardly and unscrupulous stratagems so alike in detail that the reader loses all sense of time and place. Nor need he exert any effort of imagination to place the figure of the tyrant thus delineated in the setting of contemporary events.

The past also speaks with contemporary relevance in Plato's enumeration of the tyrant's desperate measures: his stirring up of foreign

wars to smother domestic discord; his assassination of enemies; his purging of friends or followers, and his confiscation of property as well as his generally indiscriminate bloodletting. The resort to unwarranted searches and seizures, the creation of *ex post facto* crimes, the arrest and punishment of men without trial, have been, writes Hamilton, in all ages the favorite and most formidable instruments of tyranny. So too in all ages the tyrant, fearing reprisal and revenge, lives in a state of war, turns his palace into an armed camp, and goes nowhere without a numerous bodyguard which, as both Aristotle and Machiavelli suggest, functions most efficiently when composed of hirelings or mercenaries.

The great books contain not only the record of tyrannical perfidy and violence, but also recommendations to the would-be tyrant of the best means to use for his nefarious purposes. Though Rousseau refers to Machiavelli's *Prince* as the book of Republicans, and thinks that the choice of his detestable hero, Caesar Borgia, clearly enough shows his hidden aim, the rules which Machiavelli formulates for the prince seem on the surface at least to be essentially similar to the advice Aristotle gives the tyrant.

The end in both cases is the same—success in the effort to gain and keep power. The means in general are force and fraud, or, as Machiavelli phrases it, the methods of the lion and the fox. Machiavelli counsels the prince to inspire fear in such a way that if he does not win love, he avoids hatred. He tells him that he should appear to keep faith without hesitating to break his promises; that he should avoid flatterers and sycophants, and that he should acquire a reputation for liberality without cost to himself. Not very different is Aristotle's advice to the tyrant—to lop off the heads of those who are too high and to humble all the rest to sow discord among his subjects; to impoverish the people by multiplying taxes; to employ informers; and to encourage the betrayal of one faction by another.

But in his suggestion of another course for the tyrant to take—the policy of not merely pretending but actually trying to conduct himself like a just king—Aristotle seems to deviate from the spirit of Machiavelli's maxim that



the appearance of virtue is profitable so long as it does not interfere with doing whatever is expedient however vicious. Yet even here Aristotle says that the tyrant must be careful to keep power enough to rule over his subjects whether they like him or not for if he once gives this up he gives up his tyranny.

The best commentary on these recommendations seems to be indirectly expressed by their

authors. Both Aristotle and Machiavelli draw one striking conclusion from the history of those—call them princes or tyrants—who have tried to put such rules into practice. Whether its collapse is due to the inherent weakness of might without right or in Machiavelli's terms to the unforeseeable mishaps of fortune, tyranny of all forms of government seems to be the shortest lived.

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 Ho 1 = *Iliad* bk 11 [26, 283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTION** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53J v. Pr<sup>o</sup>ph<sup>et</sup>ia 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164<sup>c</sup> the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR DIVISION** One or more of the main divisions of a work (such as PART, BOOK, CHAPTER) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Ill d* BN:1 [265-83] 12d

BT ER ERV E The references are to book chapter and verse When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows g Old Testament NT Nehemi h 7:35—(D) II Esdras 7:46

SYM 014 The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole sentence. *passim* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Index* consult the Preface.

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- 42 KANT *Science of Rights* 450b-d
- 43 DECLARATION OF INDEPENDENCE 1a 3b passim
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- 43 MILL *Liberty* 267d 268b 274b d [fn 1] / *Representative Government* 338d 341d 344d 350a esp 346a b
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- 35 LOCKE *Tolerant* 19a B / *Civil Government* CH IV 29d 30b CH VI c CT 61-63 38a c CH VII SECT 57-94 44a 46c CH IX SECT 117 54d CH XI SECT 135 139 55d 58a BK XV s 171-CH XVI SECT 196 65 70c
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5b Despotism and constitutional government with respect to juridical defenses against misgovernment or redress for grievances through due process of law

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- (5) *The contrast between despotic and constitutional government by men and government by laws* 5d *The analogues of despotism and constitutional rule in the relation of the powers of the soul to the tyranny of the passions*

- 25 MONTAIGNE *Essays* 184b d  
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35 LOCKE *Human Understanding* BK II CH XXI 5 CT 54 192b c  
38 ROUSSEAU *Social Contract* BK I 393c  
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- 6 Imperial rule as despotic and as tyrannical or benevolent: the government of conquered peoples or colonies

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6 HERODOTUS *History* BK I 30b 31a 35c 36a 38b c BK V 184a d BK VI 189d 191b  
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9 ARISTOTLE *Politics* BK I CH 8 [1256<sup>b</sup> 25] 450c BK III CH 13 [1284 26-32] 482b c BK VII CH 2 [1324<sup>b</sup>-3 41] 528d 529a CH 14 [1333<sup>b</sup> 38-1334 2] 538d  
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15 TACITUS *Annals* BK I 17 d BK IV 76a 82d 83a BK XII 117c d K XIV 149a b / *Histories* BK IV 286c 287 290a d  
18 AUGUSTIN *City of God* BK XIX CH 15 521a c CH 21 524a 525b  
23 MACHIAVELLI *Prince* CH II V 3c 8c  
23 HOBBS *Leviathan* PART I 101b 111a CONCLUSION 280b 281a  
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35 LOCKE *Tolerant* 13c d / *Civil Government* CH XV 65d 70c  
36 SWIFT *Gulliver* ART I 24b 25a PART IV 182b-183a  
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46 HEGEL *Philosophy of Right* PART III 12 35i 112a II ADDITIONS 172 146c d / *Philosophy of History* PART III 298a 299c 301c 302a  
50 MARX *Capital* 372c 374a

- 7 The ways of tyrants or despots to attain and maintain power

- OLD TESTAMENT *Daniel* 3 1 12  
APOCRYPH *I Maccabees* 1 41-64 10 32 46—(D) OT *I Maccabees* 1 43-67 10 22 46  
5 Aeschylus *Prometheus Bound* [196-241] 42b c  
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6 THUCYDIDES *Peloponnesian War* BK I 380d 382b BK III 425a 426d BK VI 524c d BK VIII 579c 590c  
7 PLATO *Gorgias* 264c 265a / *Republic* BK VIII 411d 415c / *Seventh Letter* 803 b 811b-813d  
9 ARISTOTLE *Politics* BK III CH 11 [1284 1 3] 482a BK V CH 10 [1310 39-1311 28] 512d 513c [1312 9-1313 17] 515a d CH 11 [1313 34]-c 12 [1315 39] 516a 518d BK VI CH 4 [1319 26-32] 523b / *Rhetoric* BK I CH 2 [1357 30-1358 1] 597c d  
12 EISENBERG *Discourses* BK IV CH 13 244a b  
14 LUTARCH *Romulus* 27c 28d / *Solon* 75c 76d / *Populicola* 77a 86a c passim / *Camilus* 117c 121a c / *Cololanus* 176b 184c / *Cato* 1 Ma 1 344c 354a c / *Sulla* 382a 387a c / *Agesilaus* 482a 484a 489b c 495a b / *Pompey* 521 b / *Caesar* 580b / *Cato the Younger* 636c d / *Agrippa* 648b d 656d / *Tiberius* 66c ch 5 671b d 681a b / *Marcus Brutus* 809b 811a esp 810b  
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23 MACHIAVELLI *Prince* 1a 37d esp CH III 3c 5 CH V 8a c CH VI 9b 10a c CH VII 11b c CH VIII 14a CH XV 22b 31c  
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- 35 LOCKE *Civil Government* CH VII SECT 93 45d 46a CH XVIII SECT 210 73b-c
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- 37 MONTEQUIEU *Spirit of Laws* BK I 68b-d BK VII 95b 96a c BK XIX 137c 139 140 K XX: 212a b
- 38 ROUSSEAU *Inequality* 358d 359a 360a ■ 361c 362a 364a b / *Political Economy* 380b ■ / *Social Contract* K I I 412d-413a 417b c BK IV 432c d
- 40 GIBSON *Decline and Fall* 24b d 30a esp 28b 29b-c 30a 42b d 43b 50a 51b 53c 59b esp 54c 55b 56a 153c 155b 171d 525d 526c
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- 43 MILL *Representative Government* 366a c
- 8 The fate of tyrants revolutions for liberty and justice against tyranny and despotism ty ann cide
- OLD TALENT *Judge* 3 14 4 24 6-7 9 1-11 33 3 5 4 25 14 16 / *King* 12 25 — (D) III K gr 12 1 25 / *King* gr 9 11 11 2 18-26 — (D) IV *Kings* 31 0 11 1 1 18 6 / *Chronicle* 10 23 — (D) IV *Polipomenon* 23 / *Jeremiah* 41 — (D) *Jeremias* 4
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- 6 HEBODOTUS *History* BK 12b 14a K I 84 d 85b BK V 160a 185 c passim esp 166c 167b 171c 172c BK VI 208d 209b
- 6 THUCYDIDES *Plponnesa W* K I 387a 389b K VI 523c 524 BK V 579 590
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- 23 MACHIAVELLI *Prince* CH V 8a c
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- 26 SHAKESPEARE *Richard III* 105 148a c esp ACT V SC III [237 27] 146b-c / *Julius Caesar* ACT I SC II [90-161] 570b 71a SC I [72-130] 573b d ACT II SC I [10-34] 574c d [12 183] 575d 576b ACT III SC I [13-44] 583d 584
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## CROSS REFERENCES

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- The relation of tyranny to other forms of government see ARISTOCRACY 2c DEMOCRACY 2a MONARCHY 4b OLIGARCHY 3a



- For The distinction between tyranny and despotism in terms of the distinction between slavery and subjection see SLAVERY 6a-6b and for the relation of despotism to absolute monarchy see MONARCHY 4a-4b 4c(1)
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- The analogies of despotic and constitutional rule in the relations of reason and the passions see LIBERTY 3a-3b SLAVERY 7
- The analogies in the economic order of political tyranny and despotism see JUSTICE 8c-8c(1) LABOR 5a-5d 7f SLAVERY 4a-4c
- Other discussions of imperialism see DEMOCRACY 7b GOVERNMENT 5b MONARCHY 5-5b REVOLUTION 7 SLAVERY 6d STATE 10b WAR AND PEACE 6a
- The struggle for power and for liberty as between tyrants or despots and the people they oppress see LABOR 7c-7c(3) LIBERTY 6b-6c OLIGARCHY 5c PROGRESS 3b REVOLUTION 3a-3b 3c(3) 4a 5b SLAVERY 3c

## ADDITIONAL READINGS

Listed below are works not included in *The Great Book of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups.

I Works by authors represented in this collection

II Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

### I

- MICAVELLI *The Discourses*  
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 MERRIAM *The New Democracy and the New Dictatorship*  
 S. R. USS *On Tyranny*

## Chapter 96 UNIVERSAL AND PARTICULAR

### INTRODUCTION

ON such speculative problems as the existence of God the immortality of the soul the infinity of time and space or the limit of human knowledge the conversation of philosophers seems to make contact with the discourse of scientists the language of poets and the speech of ordinary men The philosophers usually begin at least by propounding questions which correspond to those asked by men who do not profess to be philosophers But throughout the tradition of western thought the problem of the universal unlike these others seems to have the character of a professional secret

The various solutions of the problem of the universal are so many esoteric doctrines each with its own sectarian name The initiated can distinguish themselves from the novices by their proficiency in this area and the outsider who overhears the discussion of professional may be completely left behind wondering as much about how the question arose as about the meaning of the conflicting answers

No genuine philosophical problem it seems reasonable to suppose can be so remote from questions intelligible to common sense If it is not just a specious riddle to amuse the experts the problem of the universal despite its technical appearance should raise issues from which in some form or other no one can escape Whether or not this is so can be tested by considering the various ways in which the problem occurs in other chapters under different guises and in different contexts

In the chapter on SAME AND OTHER we find the question how two individuals can be the same in some particular respect—how in spite of their separate existence they can share in the possession of a common nature or attribute Anyone who classifies things or tries to make definitions may be led to wonder whether clas-

sifications are entirely verbal and definitions fictions of the mind or whether things themselves belong together in some real community based upon an inherent sameness or similarity

In the chapter on ONE AND MANY the question takes the form of asking how two or more things can be one in any way Again both science and common sense seem able to deal with an infinite number of individuals by applying a single name to them or apprehending them all under a single concept or notion But it may be asked what justifies the denomination of many things by one name What unity in the things verifies the tendency of thought to unify them conceptually? Does a real unity exist in things by virtue of their being somehow one as well as many or as a result of the many somehow participating in a one which exists separately from them?

In the chapters on DEFINITION and SIGN AND SYMBOL the same questions are at least implicit In connection with the object of definition one issue is whether what Aristotle calls the formulable essence exists as the common nature of many individuals or whether as Locke suggests definitions formulate only the nominal not the real essences of things As that and related issues are faced anyone who acknowledges the familiar distinction between proper and common names may become involved in questioning what common or general names signify and how they get the meanings with which they are used in everyday discourse

The problem of the sameness of things distinct from one another the problem of the one in the many or the one and the many the problem of essences and common names are other statements of the problem of the universal and the particular Attention to the words themselves confirms this The word *universal* connotes a unity—the one as opposed to the many

the common ■ opposed to the unique or special. The word *particular* connotes participation—the part as opposed to the whole, the member as opposed to the class. As the reference already made to essence and individual indicates, these are not the only pairs of terms which somehow correspond in significance to universal and particular, but others like model and imitation, form and matter, abstract and concrete are more obscure in meaning. The discussion of universal and particular throws light on them rather than gains clarity from them.

THE READER OF THE great books can witness the origin of the problem of the universal and particular as it occurs in a conversation, not between technical philosophers but between Socrates and his friends. In the *Meno* Socrates and Meno get into a discussion of how virtue is acquired. Socrates thinks it is necessary to inquire first what virtue is. Meno responds by enumerating different virtues, but Socrates is not satisfied. He wants a definition which will cover all the virtues. Even if Meno could say what justice or temperance is, that would not do, for each of these is, as Socrates says, *a virtue*, not *virtue*—a particular virtue or a part of virtue, not the whole of it.

In searching after one virtue, Socrates tells Meno, "we have found many," but we have been unable to find the common virtue which runs through them all. To help Meno, who claims he is not able to follow Socrates in his attempt to get at one common notion of virtue, Socrates shifts the discussion to colors and figures. He warns Meno that color cannot be defined by naming colors and that, even if he could define a square, a circle, and all other figures, he would not be saying what *figure* is. To proceed in this way is to be "landed in particulars."

Tell me then, Socrates says, "since you call them by a common name, and say that they are all figures, even when opposed to one another, what is that common nature which you designate as figure?"

If Meno were to reply, "I do not know what you want," not much further explanation could be given. To someone who remained perplexed at this point, we could only say, "Socrates sug-

gests: Do you not understand that we are looking for the same in the many? Or put in another form, we might ask, he says, 'What is that [one in many] which you call figure and which includes not only the round and straight figures, but all?'

Thus stated, the problem of the universal seems inescapable—a problem for everyone, not just for philosophers. But the philosophers complicate the problem almost as soon as it is stated. Giving his version of the history of philosophy, Aristotle offers an explanation of how the problem shifted to another level. Socrates, he writes, was busying himself about ethical matters and seeking the universal in these ethical matters [he] fixed thought for the first time on definitions. Plato accepted his teaching but held that the problem applied not to sensible things but to entities of another kind—for this reason, that the common definition could not be a definition of any sensible thing ■ they were always changing. Things of this other sort, he called Ideas, and sensible things, he said, were all named after these, and in virtue of a relation to these, for the many existed by participation in the Ideas that have the same name as they.

It is at this point, according to Aristotle, that the great philosophical controversy begins. Whereas the thinkers of old ranked particular things as substances, e.g., fire and earth, not what is common to both, body, the Platonists or idealists—the thinkers of the present day—tend to rank universal as substances, for genera are universal. Aristotle repeatedly tries to distinguish between the Socratic inquiry and what he regards as the Platonic doctrine—the theory of Ideas. The first to raise the problem of universal definition, Socrates, he writes, did not make the universals or the definitions exist apart; they, however—the Platonists—gave them separate existence, and this was the kind of thing they called Ideas.

As between Socrates and his disciples, Aristotle does not hesitate to take sides. Socrates gave the impulse to this theory of ideas, but he did not separate universals from individuals, and in not separating them, Aristotle adds, he thought rightly. The issue between Aristotle and his own teacher, Plato, cannot how-

ever be stated by so simple an affirmation and denial

On Aristotle's side it involves the fundamental principles of his metaphysics especially his doctrine of substance as well as his theory of what and how the intellect knows as contrasted with the perceptions of the senses On Plato's side it involves many questions concerning the intelligible and the sensible being and becoming the one and the many—questions the Aristotelian answers to which would not satisfy Plato

Wherever the truth lies Aristotle recognizes that on this issue perhaps more than on any other he is most sharply opposed to Plato It is the one matter wherein he feels a conflict between devotion to his teacher and to the truth ■ he sees it The consideration of the universal good he declares in the *Ethics* is made difficult by the fact that the Forms have been introduced by friends of our own but while both are dear piety requires us to honor truth above our friends

THE HISTORIANS OF PHILOSOPHY beginning with Aristotle attribute one solution of the problem of universals to Plato That solution comes to be called realism because it affirms the independent reality of universals as separately existing Ideas or Forms But all the commentators do not like Aristotle dissent from Plato's solution In our own time for example Bertrand Russell treating of the world of universals in the *Problems of Philosophy* says the problem with which we are now concerned is a very old one ■ it was brought into philosophy by Plato Plato's theory of ideas is an attempt to solve this very problem and in my opinion it ■ one of the most successful attempts hitherto made The theory to be advocated in what follows is largely Plato's with merely such modifications as time has shown to be necessary

For one thing Russell thinks the word idea has acquired in the course of time many associations which are quite misleading when applied to Plato's ideas We shall therefore he writes use the word universal instead of the word idea to describe what Plato meant

We speak of that very given in sensation as a *particular* by opposition to this a

*universal* will be anything which may be shared by many particulars Broadly speaking proper names stand for particulars while other substantives adjectives prepositions and verbs stand for universals

Russell here calls attention to another point which he thinks has too seldom been observed namely that universals are not exclusively signified by common nouns and adjectives but that in addition there are relational universals signified by prepositions and verbs This sort of universal according to him most readily shows that universals have being apart from particulars It can also be shown he argues that their being is not merely mental that whatever being belongs to them ■ independent of their being thought of or in any way apprehended by minds

If the word existence implies definite location in time and space then Russell concludes in the sense in which thoughts and feelings minds and physical objects *exist* universals do not exist We must say instead that they *subsist* or *have being* where being is opposed to existence as being timeless The world of universals therefore may also be described as the world of being The world of being ■ unchangeable The world of existence is fleeting According to our temperaments we shall prefer the contemplation of the one or the other The one we do not prefer will probably seem to us a pale shadow of the one we prefer and hardly worthy to be regarded as in any sense real But the truth ■ that both have the same claim on our impartial attention both are real and both are important to the metaphysician Indeed no sooner have we distinguished the two worlds than it becomes necessary to consider their relations

IT IS THIS CONSIDERATION which seems to be for Plato the problem of the universal—the central difficulty in the theory of Ideas or separate Forms As indicated in the chapters on FORM and IDEA the separation of the two worlds—the sensible world of becoming and the intelligible world of being—always calls for some explanation of their resemblance

Socrates sometimes refers to the doctrine of Ideas as if its truth could be assumed and sometimes argues the necessity of a realm of immu-

table and intelligible being as the object of thought comparable to sensible changing things as the object of perception. In the *Phaedo* for example he gets Cebes to admit that the ideas which in the dialectical process we define as essences or true existences are not subject to change but that they are always what they are having the same simple self-existent and unchanging forms. In contrast to absolute beauty or goodness the many beautiful or good things are always in a state of change. These Socrates says you can touch and see and perceive with the senses but the unchanging things you can only perceive with the mind. Let us suppose then he adds that there are two sorts of existences—one seen the other unseen.

Later in the same dialogue Socrates repeats the assumption that there is an absolute beauty and goodness and greatness and the like. No other assumption seems to him to provide as satisfactory an explanation of how particular things can be beautiful or good or have any other characteristics. Nothing makes a thing beautiful he declares but the presence and participation of beauty in whatever way or manner obtained for as to the manner I am uncertain but I stoutly contend that by beauty all beautiful things become beautiful.

In later Platonic dialogues the question of the manner comes to the fore. Though the Eleatic Stranger in the *Sophist* refers to the endless conflict raging between the materialists and the idealists concerning the existence of the unseen world of ideas he himself seems to be doubtful only on the point of how the changing things of sense participate in the immutable forms. One answer is suggested in the *Timaeus*. According to the story of creation which Timaeus tells the artificer of the world made its sensible particulars copy an eternal pattern. When many things seem to be of one nature or to share the same quality they are so by virtue of imitating the eternal forms which are not only absolute essences in themselves but are also the models for created or generated things.

But in the *Parmenides* Socrates seems unable to defend the view that the ideas are as it were patterns fixed in nature and other things are like them and resemblances of them—for what is meant by the participation of other

things in the ideas is really assimilation to them. Nor can he meet other objections which Parmenides raises such as the difficulty of two or more individuals participating in one idea for if the idea is wholly in one individual it cannot be in another and if each of the many partake of the idea only in part then the idea cannot be one and indivisible. In what way Socrates Parmenides asks will all things participate in ideas if they are unable to participate in them as parts or wholes?

In the course of the discussion Parmenides rebukes Socrates for being squeamish about positing absolute essences for such things as hair mud dirt or anything else which is vile and paltry as well as for things which are beautiful and good. But his main intention seems to be to leave Socrates with an unresolved dilemma. On the one hand the difficulties with the theory of Ideas make the denial of their separate existence reasonable on the other the denial of their existence seems to make thought and reasoning impossible because it deprives the mind of its proper objects.

SOME OF ARISTOTLE'S arguments against the separate existence of universals repeat the objections raised by Parmenides to which no answer is given in the dialogues of Plato. If it were not for the fact that Aristotle attributes to Plato himself the theory he criticizes the dialogues would leave us in some doubt as to whether it is Plato or his followers the Platonists who hold that theory. But whether or not Aristotle's criticisms apply to Plato—and even if they involve some misunderstanding of his doctrine—the objections Aristotle raises help define his own position.

To say that the Forms are patterns and that other things share in them Aristotle writes is to use empty words and poetical metaphors. In his view the most paradoxical thing of all is the statement that there are certain things besides those in the material universe and that these are the same as sensible things except that they are eternal while the latter are perishable. To posit the separate being of the forms of things seems to him a useless multiplication of existences. To say that there must be Ideas of all things that are spoken of universally is to make substances of ideas.

Those who say the Forms exist would be right Aristotle concedes if they are substances. He does not think it is impossible to establish the existence of imperishable and in sensible substances but such substances if they exist would not stand in relation to sensible substances as universal to particular or as one to many. His objection to the theory of Ideas is that in speaking of absolute beauty or beauty itself, of the idea Man or man itself the Platonists do no more than add words like 'absolute' or 'itself' to the names of sensible things and posit the existence of these absolutes or universals over and above the existence of the sensible particulars having the same name.

Aristotle's own position seems to be that only individual substances exist whether they are sensible or intelligible perishable or eternal and that no universal can be a substance or exist separately in and of itself. He does not thereby deny the reality of the universal. On the contrary he holds that 'without the universal it is not possible to get knowledge' of scientific knowledge in distinction from mere sense perception. All knowledge is of the universal and of the such, he writes yet in adding that substance is not a universal but is rather a this. Aristotle indicates what is for him the central problem of the universal.

Aristotle's theory that the mind abstracts universal concepts from the particulars of sense experience and that such concepts are the terms of the universal propositions constituting scientific knowledge leaves a question concerning the object of science. If science is knowledge of real existence not of our own concepts and if only individual things really exist then how can the object of science be the universal not the individual? What is the object apprehended by the universal concept man or horse?

Aristotle's answer seems to be that if the universal term man can be truly predicated of an indefinite number of individuals it must signify something common to them all. The common nature or properties shared by a number of individuals cannot be actually universal however since in Aristotle's opinion whatever exists in the individual—the form as well as the matter of the concrete substance—is itself individual. He finds it necessary to say therefore that the universal exists potentially not actual

ly whenever a number of individuals have something in common.

The form which constitutes human nature for example is an individual form in Socrates and Callias but it has the potentiality of being universal insofar as it is capable of being separated from the individual matter of these two men by the abstractive power of the mind. When the abstraction takes place and results in the universal concept man the form thus received in the mind becomes a truly universal and enables the mind to apprehend the nature common to all individual men.

ARISTOTLE'S DOCTRINE THAT THE UNIVERSAL EXISTS potentially in individual things and actually in the abstract concepts of the mind later comes to be called moderate realism in contrast to the extreme realism of the position which asserts the actual subsistence of universals outside of minds as well as apart from individual things. It affirms that the universal has what Russell calls extra mental reality even though it severely qualifies the real being of the universal by saying it is neither actual nor subsistent.

As Aristotle denies unqualified reality to universals later philosophers deny that they have any reality at all. Those who are sometimes called conceptualists admit the existence of universals only as abstract ideas in the mind. The nominalist position taken by Hobbes and Berkeley goes further and even denies abstract ideas or universal notions in the mind. It holds that universality is a property of words alone which manifests itself in the meaning of general or common names.

In the progressive complication of the controversy each of the theories which has acquired a traditional title undergoes modification as it is reformulated in different contexts. This is especially true of the two middle positions which tend to lean toward one or the other of the extremes.

Locke for example may be called a conceptualist because he thinks that general names derive their universal significance from the abstract ideas they signify. But though he denies that by means of our universal notions or abstract ideas we can know the real essences of things he does not deny real essences. To this

extent he may lean toward moderate realism more than a philosopher like William of Ockham or a psychologist like William James who says *We must decide in favor of the conceptualists* and affirm that the power to think things qualities relations isolated and abstracted from the total experience in which they appear is the most indisputable function of our thought. Similarly the development which Aquinas gives to Aristotle's views especially in the point he adds concerning ideas in the mind of God—the eternal exemplars—may be a form of moderate realism which more than Aristotle's has some affinity with the theory of self-subsistent ideas as the eternal archetypes for sensible particulars.

Aquinas presents his own theory in the context of stating his understanding of the issue between Plato and Aristotle. Plato supposed he declares that the forms of natural things subsisted apart from matter and consequently that they are intelligible for a thing is actually intelligible from the very fact that it is immaterial. And he called such forms *species* or *ideas*. From a participation in these he said that even corporeal matter was formed in order that individuals might be naturally established in their proper genera and species. But since Aristotle did not allow that the forms of natural things exist apart from matter and since forms existing in matter are not actually intelligible it follows that the natures or forms of the sensible things which we understand are not actually intelligible.

Aquinas speaks of the forms (which exist only in union with matter in individual things) as universal forms even though they are not actually intelligible. We abstract universal forms from their particular conditions he says and by doing so we make them actually intelligible. The Platonic error in his opinion consists in thinking that the form of the thing known must be in the knower in the same manner as in the thing known. From the fact that the form of the thing understood is in the intellect under conditions of universality immateriality and immobility Plato concluded erroneously according to Aquinas that the things which we understand must subsist in themselves under the same conditions of immateriality and immobility.

As Aquinas states what he takes to be Aristotle's correction of this error it consists in distinguishing two ways in which the universal can be considered. First the universal nature may be considered together with the intention of universality. And since the intention of universality—the relation of one and the same to many—is due to intellectual abstraction the universal thus considered is subsequent in our knowledge. Secondly the universal can be considered according to the nature itself (for instance *animality* or *humanity*) as existing in the individual. In the order of generation and time the potential universal precedes the actual universal that is the universal form or common nature exists in individual things under conditions of particularity before it exists in the human mind under conditions of abstraction.

Even as forms exist in things (though they are not actually universal prior to their existence as universal concepts of the mind) so they have a mode of being prior to their existence in things. Here Aquinas attributes to Augustine the correction of a pagan error and the substitution for it of a Christian truth. Whenever Augustine who was imbued with the doctrines of the Platonists he writes found in their teaching anything consistent with the faith he adopted it and those things which he found contrary to faith he amended.

Plato positing the forms of things subsisting of themselves apart from matter had supposed that just as corporeal matter by participating in the Idea of stone becomes a stone so our intellect by participating in the same Idea has knowledge of the stone. But according to Aquinas it seems contrary to faith that the forms of things should subsist of themselves without matter outside the things themselves. Therefore in place of the Ideas defended by Plato Augustine said that the exemplars of all creatures existed in the divine mind. It is according to these that all things are formed as well as that the human soul knows all things.

THE SOLUTION to the problem of universals which Aquinas proposes seems to involve a threefold distinction with respect to the being of forms: they are (1) in the human mind by

abstraction from our experience of sensible particulars (2) in individual things and (3) prior to their existence in things in the divine mind.

But Aquinas himself says that in God there is no distinction between universal and particular nor does knowledge exist in God after the mode of created knowledge so as to be universal or particular. The divine ideas whether considered as the exemplars by which God creates things or as the types and likeness by which God knows them are not abstractions and so do not have the universality characteristic of human concepts. Whereas our abstract universals do not give us knowledge of individual things in their singularity the divine ideas according to Aquinas are the principles whereby God at once knows the singular and the universal.

If the universal *as such* is not in the divine mind neither in Ockham's opinion is it really in things—not even potentially. Everything that exists in an individual—its form and matter all its parts and properties—is the unique and singular possession of that individual. If there were something common to two things it would have to be one and the same at the same time. As common to both it would have to be somehow one and the same in both yet as existing in each it would have to be distinct in each it would have to be as singular in each as each individual thing in which it existed. But since Ockham regards this as impossible he concludes that no universal really exists outside the soul in an individual substance nor is it of the substance or the being of things but is only in the soul.

The old riddle thus returns in another form. If abstract concepts are in the mind—or if as Ockham suggests the logical terms animal and man are universals because predicable of many not through themselves but for the things they signify—then what is reality the object signified by the universal term or concept? It cannot be the many unless the numerically distinct individuals are also alike as men or animals and how can they be really alike as opposed to being merely conceived as such unless they have a common nature or attribute and to that extent are one and the same?

Locke puts the question another way. Since

all things are only particulars he asks how come we by general terms or where find we those general natures they are supposed to stand for? He answers that words become general by being made the signs of general ideas and ideas become general by separating from them the circumstances of time and place and other ideas that may determine them to this or that particular existence. By this way of abstraction they are made capable of representing more individuals than one each of which having in it a conformity to that abstract idea is (as we call it) of that sort.

But if as Locke goes on to say general natures (or genera and species) are nothing else but abstract ideas more or less comprehensive with names annexed to them then in what way do the many individuals represented by one abstract idea have in them a conformity to that abstract idea? Locke's position seems to avoid this problem. Abstract ideas he writes give us no knowledge of existence at all. Only particular propositions are about real existences. Universal propositions of whose truth or falsehood we can have certain knowledge concern not existence. Such propositions express nothing but the agreement or disagreement of our abstract ideas.

In addition to denying the reference to reality Locke regards abstract ideas as fictions or contrivances of the mind which are imperfect precisely to the extent that they succeed in being universal. The general idea of triangle he observes must be neither equilateral isosceles nor scalene but all and none of these at once. In effect it is something imperfect that can not exist. Where Locke seems to mean only that there can be no counterpart in reality to our general ideas Berkeley observing the same imperfection in what are supposed to be abstract ideas denies that they can exist even in the mind. I deny he writes that I can abstract from one another or conceive separately those qualities which it is impossible should exist so separated or that I can frame a general notion by abstracting from particulars.

Berkeley admits that a man may consider a figure merely as triangular without attending to the particular qualities of the angles or relations of the sides. So far he may abstract but



this will never prove that he can frame an abstract general inconsistent idea of a triangle. He recognizes also that all our common names have general significance but he rejects Locke's explanation of their general meaning. A word becomes general, he says, by being made the sign not of an abstract general idea but of several particular ideas, any one of which it indifferently suggests to the mind.

Does a nominalist like Berkeley escape the persistent riddle? Does it not reappear in the question which must be asked: what is there in this set of particular ideas as opposed to some other set which makes it possible for a general name to signify any one of them in differently? If each particular idea were absolutely unique and had nothing in common with any other, would the universal have any truth even on the level of names?

James thinks the nominalists are somehow forced to admit a *quasi* universal something which we think as if it were universal though it is not and in all that they say about this something which they explain to be an indefinite number of particular ideas, the same vacillation between the subjective and objective points of view appears. The reader never can tell. James continues: whether an idea spoken of is supposed to be a knower or a known. The authors themselves do not distinguish. They want to get something in the mind which shall resemble what is out of the mind, however vaguely, and they think that when that fact is accomplished, no farther questions will be asked.

SOME PHILOSOPHERS DEAL with the universal and particular in a manner which leads away from rather than into the traditional problem.

To Spinoza, for example, universal terms such as *man*, *horse*, *dog* represent confused images drawn from sense experience. They provide us with an inadequate knowledge of things. To know things adequately we must proceed from an adequate idea of the formal essence of certain attributes of God to the adequate knowledge of the essence of things. Quite opposite to the abstract universal (or indeterminate image from experience) the adequate idea is universal in the totally different sense of comprehending an infinite whole.

Hegel also distinguishes between abstract universality and true infinity or concrete universality. The former is something determinate, i.e. being abstraction from all determinacy; it is itself not without determinacy to be something abstract and one-sided constitutes its determinacy, its defectiveness, its finitude. The antithesis of the abstract universal is the particular, the determinate content implicitly contained in an abstract universal. The synthesis is the individual, not the particular individual but the infinite individual which is the concrete universal.

The concrete universal is neither the universal as a common characteristic nor the abstract universality which stands outside and over against the individual, the abstract identity of the Understanding. It is the universality which has the particular as its opposite but the particular which by its reflection into itself has been equalized with the universal. This unity is individuality, not individuality in its immediacy as a unit but individuality in accordance with its concept. For Hegel the concrete universal is the immanent Idea itself. It is the manifestation of the Absolute Spirit or God.

HOWEVER IT IS formulated and whether or not it is or can be solved, the problem of the universal seems to have a critical bearing on the discussion of many other great ideas. In addition to the chapters enumerated at the beginning, we can now see that the universal, the particular and the individual are implicated in the consideration of BEING and INFINITY, FORM and IDEA, MATTER and MIND, EXPERIENCE, INDUCTION, JUDGMENT and SCIENCE. These chapters in turn do more than throw light on the various solutions proposed to the problem of the universal. They help us understand the importance of the problem—certainly to the philosophers of the western tradition. If in the broader context of connected issues it is discovered that the proof of man's distinctive rationality or even the possibility of an immortal soul may depend on the affirmation or denial of universals, at least a concepts in the mind, then perhaps some tolerance and patience may be won for the burdensome technicalities of the problem.

## OUTLINE OF TOPICS

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Iliad* BK II [265 83] 12d the number 4 = the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* BK II [265 83] 12d.

**BIBLE REFERENCES** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemi* h 7 45—(D) *II Esdras* 7 46.

**SYMBOLS** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole. cetera passim signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

- 1 The distinct one and relation between universal and particular essence and individual whole and part classes and member one and many same and other the common and the unique
- 7 PLATO *Laches* 32c 33a / *Cratylus* 113c 114a c / *Men* 174 179b / *Euthyphro* 193c / *Phaedo* 242c 243c / *Republic* BK II 333b d K VI 383d 388a BK V 392a 394a / *Parmenides* 486d 489a / *Theaetetus* 514b 515d 534d 536b / *Sophist* 559a c 569d 574c / *Philosophus* 610d 613a
- 8 ARISTOTLE *Categoriae* CH 2 [1<sup>a</sup> 2<sup>a</sup> 3<sup>a</sup>] 5b c / *Poetorum Aristotelis* BK CH II [77 79] 105d 106 CH 24 [85 31 33] 116c d [85 5 2 1] 117a / *Metaphysics* BK I CH 9 [277<sup>a</sup> 26 278<sup>b</sup> 9] 369a d / *Metaphysics* CH 6 505b 506b CH 7 [988 34 35] 506c K I CH 3 [998 2 3] C I 4 [1000 4] 517a 518d CH 4 [1001 8 6] 520a B BK V CH 3 [10 43 13] 534d 16 [10 6<sup>a</sup> 17 101 3] 537b CH 25 [1023<sup>b</sup> 17 19] 545b c C I 25 [1023<sup>b</sup> 21] CH 26 [10 43 3] 545c BK VII CH 10 [1034<sup>b</sup> 35 1036 25] 558b 559d CH 13 562 563a H I 553c 564c BK X CH 1 2 578b d 580d esp c I [52<sup>a</sup> 28 3] 578d BK XII CH 1 [1069 18 25] 598a CH 4 5 599d 601a CH 8 [1074 32 39] 604d K XII CH 10 618c 619a c / *Soul* BK III CH 5 [430<sup>a</sup> 10-17] 662c
- 17 PLOTINUS *Fourth Ennead* T III CH 2 142a 143b TR IV 205a 207a c
- 18 AUGUSTINE *Christian Doctrine* BK III CH 34 670c d
- 19 AQUINAS *Summa Theologica* PART I Q 3 A 2 REP 3 15c 16a A 3 16a d A 4 REP 1 16d 17c A 5 ANS 17c 18b Q 4 A 1 REP 3 20d 21b Q II A 3 ANS 49a c Q 13 A 9 ANS and REP 2 71b 72c Q 14 A 6 ANS 80a 81c Q 16 A 4 REP 1 97a c Q 30 A 3 ANS and REP 1 169b 170c A 4 170c 171b Q 42 A 4 REP 3 227d 228d Q 77 A 1 REP 1 399c 401b Q 9 A 5 REP 2 418c 419b Q 85 A 3 455b 457a PART I II Q 1 A 5 REP 2 3 618d 619c B II A 1 R 3 662d 663d Q 46 A 1 ANS 813b 814a
- 20 AQUINAS *Summa Theologica* PART I II Q 81 A ANS 163a 164d PART III Q 2 A 1 AN 710a 711c A 2 AN 711d 712d A 5 BK 2 715a 716b Q 7 A 13 REP 3 755 756c ART III SUPPL Q 92 A 1 ANS 1025c 1032b
- 23 HOBBES *Leviathan* PART I 53b c
- 28 HUME *On Animal Generation* n 332a 333b
- 31 DE CARTES *Rules* VI 8a 10 / *Objections and Replies* 123a

- 31 SPINOZA *Ethics* PART II PROP 3, 40 386b-388b
- 35 LOCKE *Human Understanding* bk II I XI  
ECT 9 145b-c CH XXXII SECT 6-8 244b d  
K III CH I SECT 3 251d 252a CH I I 254d  
260a CH VI 268b 283a passim esp s CT 3  
277c 278b ECT 36-37 279 b BK IV CH VII  
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- 35 B REKLEY *Human Knowledge* INTRO SECT  
6-19 405d-410c esp SECT 12 16 408a-409d  
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- 35 HUMA *Human Understanding* SECT XII DIV  
12, 507b [fn 1]
- 38 ROUSSEAU *I equality* 341b 342b
- 42 KANT *Pure Reason* 115b-c 193a 200c esp  
197b-198a, 199b-c 211c 218d
- 45 LAVOISIER *Elements of Chemistry* PREF 4b c
- 46 H GEL *Philo sophy of Right* INTRO p r 24  
17d 18a PART III pa 184 64b pa 353 112b c  
/ *Philosophy of History* 3 IN RO 165a b 182d  
183c
- 53 JAMS *Pryhlogy* 166 b 308a 312a

## 2 The problem of the univer I

### 2a The reality of universals their actual existence separate form or their potential existence in the forms of things

- 7 PLATO *Critylus* 87d 89a 113c 114a c /  
*Phaedo* 224 225a 228d 230c 231c 232a  
240b-246c esp 242c 244b / *Republic* BK VI  
383d 388a K IX c 426d-429b / *Timaeus*  
447a d 457 d / *Parmenides* 487-491a /  
*Theaetetus* 535 530b / *Sophist* 561d 574c /  
*Platibus* 610d 613a / *Seventh Letter* 809  
810b
- 8 ARISTOTLE *Potter or Analytic* K CH II  
[775-9] 105d 106a c 4 [8, 31 3] 116 d  
[8515 1] 117a / *Sophist* 1 Refutations CH 2  
[7837 39] 246c / *Metaphysics* BK I CH 6  
505b-506b H 9 508c 511c BK III H  
[995 13 18] 514a [9953-996] 514b CH  
[99734-998 19] 516 d H 4 [999 24  
100 4] 518a d [1001 4 b 5] 519d 520c H 0  
[10021 3] 521b d CH VII CH 8 [1 33b 9-  
34 8] 556d 557b CH [1035b 8 3] 559b  
CH 1 [ 375-9] 560c CH 13 4 562 563  
CH 12 [ 408 4] 564a c 6 [ 03 28  
104 4] 504d 565 BK II H 569d 570d  
esp [1045 4-9] 569d 570 [1045b 8 5]  
570c d K IX c 8 [105 35 51 2] 576d  
577a K X CH 580b d CH 586 d  
K X c 1 [ 059 39-8] 587b BK XI CH I  
[ 06927-37] 598b H 3 [10704 30] 599b d  
H 5 [ 071 17 3] 600d 601 BK XI H  
607 c CH 4-5 610a 611d CH 9 [ 08629-b12]  
618b
- 17 PLOTINUS *Sextus En* d TR V CH 5 8 307a  
308c
- 18 AUGUSTINE *Confessions* K I par 9 3 K  
X par 19 76 b / *City of God* K VI CH 6  
269b-c BK X CH 27 337d 338a

- 19 AQUINAS *Summa Theologiae* PART I Q 3 A  
3 ANS 16a d Q 8 A 4 REP 1 37c 38c Q 13 A  
9 AN 71b 72c Q 15 A 3 RE 4 93b 94  
16 A 7 R P 2 99a d Q 29 A 2, K 4 163b  
164b Q 30 A 4 170c 171b Q 76 A REP 4  
388c 391a Q 79 A 3 416a-417a A 5 418c  
419b Q 84 A 1 ANS 440d-442a A 4 ANS and  
RE 1 2 444d 446b A 5 446c-447c A 6 ANS  
447 449a A 7 AN and REP 1 449b-450b  
Q 85 A 1 ANS and REP 1 2 451c 453c A 2  
REP 2 453d-455b 3 REP 1 4 455b-457a  
PART I II Q 29 A 0 A 5 and REP 1 3 748b  
749a
- 20 AQUIN *Summa Theologiae* PART III Q  
A 5 REP 2 715a 716b P RT III U PL Q 9  
1 ANS 1025c 1032b
- 23 HOBBS *Leviathan* RT I 59d
- 30 BACON *Advancement of Learning* 43d 44c
- 35 LOCKE *Human Understanding* BK III CH III  
SECT 18 257a b CH VI SECT 20-27 274d 276a  
ECT 30 277a b
- 42 KANT *Judgement* 551a 552c
- 53 JAMES *Psychology* 309a 311a passim 873a b

### 2b Universals abstract concepts in the human mind

- 7 PLATO *Parmenides* 489b-c
- 8 ARISTOTLE *Potter or Analytic* BK I CH  
[775-9] 105d 106a CH 24 116b 118a / *Physics*  
BK VII CH 3 [ 47b 7] 330b / *Sophist* K I CH  
I [402b 9] 631 d BK II H 5 [417b 17 24]  
648b-c BK III CH 4 [429 18 20] 661c
- 18 AUGUSTINE *Confessions* BK X par 9 76a b  
/ *City of God* BK VI CH 6-7 269b d BK X  
27 337d 338a
- 19 AQUINAS *Summa Theologiae* PART Q 13 A  
9 ANS 71b 72 Q 16 A 7 R P 2 99a d Q 75  
A 5 AN and RE 1 382 383b Q 16 A 2 ANS  
and R 3 4 388c 391 Q 79 A 3 416a 417a  
Q 84 A 1 AN and RE 1 440d-442a A AN  
442b 443 A 3 443d 444d A 4 ANS nd R P  
444d 446b Q 85 A 2 REP 453d 455b
- 20 AQUINA *Summa Theologiae* PART III Q 2  
A 5 K 2 715a 716b ART I SUPPL Q 92 A  
1 AN 1025c 1032b
- 28 HUME *Of a Miracle* Gen non 332a 333b  
31 D CART *Objections and Replies* 136d  
137a 216d 217d
- 31 SPINOZA *Ethics* PART RO 4 CHOL I  
387b 388a
- 35 LOCKE *Human Understanding* BK I CH I  
s CT 598d 99a K II H XI s CT 9 145b-c  
CH X I SE T I 147b c H XXXII s CT 6-8  
244b d H I CH I s CT 3 251d 252a CH  
I SECT 6- 55 260a CH V I 263d 283a  
pa m esp v SECT 1 3 263d 264a  
VI s CT 6-5 274d 283a BK V CH I  
SECT 31 323 d CH VI T 4 331d 332b  
esp 332b CH VI s r 9 338d 339b esp  
339 b CH X T 349
- 35 BERKELEY *Human Knowledge* INTRO E T  
6-9 405d-410 passim s CT 6 438b-c

- (2) *The problem of the universal* 2b *Universals as abstractions or concepts in the human mind*

35 HU *Human Understanding* g SECT XII DIV 122 505c d

38 ROUSSEAU *Inequality* 341b 342b

46 HEGEL *Philosophy of Right* INTRO par 24 17d 18a

53 JAMES *Psychology* 305a 311a

- 2c *The reduction of universals or abstractions to the meaning of general or common names*

33 HOBBES *Leviathan* PART I 53b 56a

31 DESCARTES *Objections and Replies* 136d 137a

31 SPINOZA *Ethics* PART II P OF 40 SCHOL 1 387b 388a

35 LOCKE *Human Understanding* g BK III CH VI SECT 32 278a b

35 MILLER *Human Knowledge* INTRO SECT II 12 407b-408b SECT 15 409a b SECT 18-19 410a c SECT 122 437b c

35 HUMPHREY *Human Understanding* g SECT XII DIV 125 507b [fn 1]

53 JAMES *Psychology* 309a 311a

- 3 *The problem of the individual the principle of individuality the concrete universal*

8 ARISTOTLE *Categories* C 12 [1<sup>st</sup>-10<sup>th</sup>] 5b c / *Metaphysics* BK III 11 4 [999<sup>24</sup> 100 4] 518c d CH 6 [1003 5 16] 521d 522a c BK V C 16 536a 537c *passim* BK VII CH 10 [103<sup>2</sup> 28 3a] 559b CH 11 [1037 5 9] 560c CH 15 [1039<sup>2</sup> 7 31] 563d BK X CH 1 [1052 28 37] 578d BK VIII CH 9 [1086 2]-CH 10 [1087<sup>25</sup> 25] 618b 619a c

17 PLOTINUS *Fifth Ennead* TR VII 238a 239b

19 AQUINAS *Summa Theologiae* PART I Q 3 A 2 REP 3 15c 16a Q 7 A 1 ANS 31a d Q 13 A 9 ANS 71b 72c 14 A 11 ANS and REP 3 84c 85c 15 A 3 REP 4 93b 94a Q 29 A 1 162a 163b Q 4 A 2 AN 257b 258c Q 50 A 4 AN and REP 3 4 273b 274b Q 56 1 REP 2 292a d Q 57 A 2 ANS and REP 2 3 295d 297a Q 65 A 3 ANS 341c 342b Q 75 A 4 ANS 381b 382 A 5 ANS 382a 383b A 7 ANS 384d 385c Q 76 A 2 388c 391 Q 84 A 2 ANS 442b 443c Q 85 A 1 ANS and RE 1 2 451c-453c A 5 EP 3 457d-458d A 7 RE 3 459c 460b Q 89 A 4 AN 476c 477a Q 115 A 1 A 5 nd REP 3 585d 587c

20 AQUINAS *Summa Theologiae* PART III Q 2 A 2 ANS 711d 712a Q 3 REP 3 713a 714c PART II SUPPL Q 92 A 1 AN 1025c 1032b

31 SPINOZA *Ethics* PART II DEF 7 373c

35 LOCKE *Human Understanding* g BK II C I XXI 1218d 228c *passim* 11 PAR T 3 219d 220a

46 HEGEL *Philosophy of Right* PREF 6a 7 1 TR O par 5-9 13a 14d par 31 17a c pa 24 17d 18a par 26 18b c par 31 32 19c 20b

PART III par 207 69b 11 par 229 75b par 352 353 112b c par 360 113d 114a c ADDITIONS 2 115d 7 117b c 19 119c d / *Philosophy of History* INTRO 156d 157b 158a 159b 160b-178a esp 165a b 176b c 179c d 182d 183c PART III 285b d

- 4 *Universals and particulars in the order of knowledge*

- 4a *Universals as objects of knowledge the intuitive or reflexive apprehension of universals*

7 PLATO *Cratylus* 113c 114a c / *Meno* 179c 183a / *Phaedo* 224a c 228a 230c 231c 232a / *Republic* BK III 333b d BK V 370d 373c BK VI 383d 388a / *Parmenides* 489d-491a / *Theaetetus* 535b 536a / *Sophist* 570a 574c / *Seventh Letter* 809c 810b

8 ARISTOTLE *Posterior Analytics* BK I CH II [77<sup>25</sup>-9] 105d 106a / *Physics* BK I CH 5 [188<sup>26</sup>-189<sup>29</sup>] 264b c BK VII CH 3 [24<sup>21</sup> 7] 330b / *Metaphysics* BK I CH 6 [98<sup>29</sup>-100<sup>2</sup>] 505b c CH 9 [990<sup>29</sup> 28] 508d 509 BK III CH 4 [999 24 25] 518a b BK XIII CH 9 [106<sup>26</sup> 29-32] 618b c / *Soul* BK II CH 5 [417<sup>17</sup> 23] 648b 11

9 ARISTOTLE *Ethics* BK VI CH 3 [1139<sup>2</sup> 31] 388c

18 AUGUSTINE *Confessions* BK X par 19 76a b / *City of God* BK VIII CH 6-7 269b-d BK XI par 27 337d 338a / *Christian Doctrine* BK II CH 38 654b c

19 AQUINAS *Summa Theologiae* PART I Q 14 A 11 RE 1 84c 85c Q 55 A 3 REP 1 2 291a d Q 76 A 2 REP 3 4 388c 391a Q 84 A 1 ANS 440d 442a A 4 ANS and REP 1 2 444d 446b A 5 446c 447c A 6 ANS 447c 449a A 7 ANS and REP 1 449b 450b Q 85 A 1 ANS and REP 1 2 451c 453c A 2 453d-455b Q 86 A 1 A 5 and RE 4 461c 462a A 2 REP 4 462a-463a PART II Q 1 A 2 REP 3 610b-611b Q 2 A 6 ANS 619d 620d Q 29 A 6 ANS and REP 1 3 748b 749a Q 30 A 4 REP 2 751c 752b

20 AQUINAS *Summa Theologiae* PART III Q 10 A 3 REP 2 769d 771b PART III SUPPL Q 92 A 1 ANS 1025c 1032b

35 LOCKE *Human Understanding* g BK IV III III SECT 31 323c d

53 JAMES *Psychology* 308a 314 *passim*

- 4b *Universals in relation to the angelic intellect and the divine mind*

19 AQUINAS *Summa Theologiae* PART I Q 14 A 1 RE 3 75d 76c A 11 84c 85c Q 16 A 7 REP 2 99a d Q 22 A 2 ANS 128d 130d Q 55 A 2 2 289d 291d Q 57 A 1 REP 3 29 a d A 2 295d 297a Q 84 A 2 ANS 442b-443c A 4-5 444d 447c Q 105 A 1 REP 2 538d 539c Q 106 A 1 ANS 545d 546d Q 108 A 1 ANS 552c 553c

#### 4c The abstraction of universal concepts from the particulars of sense

- 8 ARISTOTLE *Prior Analytics* BK II CH 21 87d 89b / *Posterior Analytics* BK I CH I [71 16-38] 97b-d CH II [77<sup>a</sup>5-9] 105d 106a BK II CH 19 [99<sup>b</sup>20-100<sup>b</sup>3] 136a d / *Soul* BK III CH 4 [129 18-29] 661c CH 7 [131 14]-CH II [432 14] 663d 664d / *Memory and Reminiscence* CH I [149<sup>b</sup>30-450<sup>a</sup>10] 690c d

- 9 ARISTOTLE *Ethics* BK VI CH 8 [114 13 19] 391b

- 19 AQUINAS *Summa Theologica* PART I Q 13 A 9 ANS 71b-72c Q 14 A 1 R P 1 84c 85c Q 16 A 1 R P 2 99a d Q 40 A 3 ANS 215c 216d Q 55 A 3 291a d Q 57 A 2 REP 1 3 293d 297a 75 A 5 ANS and REP 1 382a 383b Q 76 A 2 AN and RE 3 438c 391a Q 79 AA 3-5 416a-419b 84 440b-4 1b Q 82 AA 1 4 451 457d Q 86 A 1 ANS and RPP 4 461c 462a A 2 ANS and REP 2 4 462a-463a Q 89 A 4 ANS and R 1 476c-477a PART II Q 29 A 6 ANS and REP 1 748b-749a

- 20 AQUINAS *Summa Theologica* PART III Q 2 A 1 R 2 715a 716b PART III SUPPL. Q 92 A 1 NS 1025c 1032b

- 28 HAVY *On Animal Generation* 332a 334d

- 31 DES CARTES *Discourse* PART IV 53b / *Objections and Replies* 167c-d 215b-c 216d 217d

- 31 SPOINZA *Ethics* ART II PROP 40 SCHOL 2 387b 388b

- 35 LOCKE *Human Understanding* BK I CH I SECT 15 98d 99 BK II CH XI S CT 9 145b-c CH XII SECT 1 147b-c BK III CH III SECT 6-9 255c 256c CH IV SECT 6 263b-c C 1 SEC 32 277c 278b BK IV CH VII CT 9 338d 339b esp 339a b CH IX SECT 1 349a

- 35 BERKELEY *Human Knowledge* INTRO SECT 6-16 405d-409d passim esp SECT 12 16 408a 409d SECT 5 414a 11 SECT 97 00 431d-432c

- 35 HUME *Human Understanding* S CT XII DIV 123 505c d

- 38 ROUSSEAU *Inequality* 341b 342b

- 4 KANT *Pure Reason* 45d 46 115b a

- 11 JAMES *Psychology* 308a 311a

#### 4d The distinction between particular and universal in relation to the distinction between percept and concept or between image and idea

- 7 PLATO *Cratylus* 113c 114 c / *Phaedrus* 126b-c / *Republic* BK III 333b d BK VI 386d 388a / *Theaetetus* 534d 536b / *Seventh Letter* 809c 810d

- 8 ARISTOTLE *Prior Analytics* BK I CH 18 111b-c CH 31 120a c BK II CH 9 [99<sup>b</sup>33 100<sup>b</sup>5] 136b-d / *Physics* BK I CH 5 [79<sup>a</sup>5-9] 264b-c / *Metaphysics* BK I CH [930<sup>a</sup>8-98<sup>b</sup>3] 499a 500a BK II CH 4 [999<sup>a</sup>24 5] 518 11 BK VII CH 10 [1 35<sup>a</sup>35 1 36 1] 559b-c / *Soul* BK II CH 5 [11 17 28] 648b-c

- 9 ARISTOTLE *Ethics* BK VII CH 3 [1147<sup>b</sup>3 6] 397d

- 19 AUGUSTINE *Confessions* BK X par 16-19 75b-76b

- 11 AQUINAS *Summa Theologica* PART I Q 57 A 2 295d 297a 81 A 3 ANS 430c-431d Q 84 AA 1 2 440d-443c AA 6-8 447c-451b Q 85 A 1 451c-453c A 3 ANS 455b-457a Q 86 A 1 ANS 461c-462a PART II Q 17 A 7 AN 690d 692a Q 9 A 6 ANS and REP 1 3 748b 749a

- 31 DESCARTES *Meditations* VI 96d 97a / *Objections and Replies* 136d 137a 138d 139a 218c-d

- 31 SPOINZA *Ethics* PART II PROP 44 389b-390

- 35 LOCKE *Human Understanding* BK II CH VI SECT 8-9 145b-c BK IV CH VII SECT 9 339a b

- 35 BERKELEY *Human Knowledge* INTRO SECT 6-19 405d 410c passim esp SECT 12 16 408a 409d SECT 12-18 438b d

- 38 ROUSSEAU *Inequality* 341d 342a

- 42 KANT *Pure Reason* 23 24a 115b 11

- 53 JAMES *Psychology* 307b-311a esp 307b-308b 311b 312b [16 1] 480b-484a esp 482b-483b

#### 4e The inadequacy of our knowledge of individuals is their indefinability

- 8 ARISTOTLE *Categories* CH 5 [26<sup>b</sup>-37] 6c 7a / *Prior Analytics* BK I CH 31 1 0a-c / *Physics* BK I CH 5 [188<sup>b</sup>26-189<sup>a</sup>9] 284b c BK VI CH 3 [147<sup>a</sup>1-7] 330b / *Metaphysics* BK I CH 4 [999<sup>a</sup>24 5] 518a b CH 6 [1003 5 7] 521d 522a c BK VI CH 10 [1035<sup>b</sup>33 1036<sup>a</sup>1] 559b-c CH 15 563c 564c BK VII CH 2 [1060<sup>b</sup>20-3] 588d BK XIII CH 1 618c 619a c

- 9 ARISTOTLE *Rhetoric* BK I CH 2 [356<sup>a</sup>28-35] 596b-c

- 19 AQUINAS *Summa Theologica* PART I Q 3 A 3 ANS 16 d Q 12 A 8 REP 4 57b 58b Q 13 A 9 ANS 71b-72c Q 14 A 1 84c 85c Q 15 A 3 REP 4 93b-94a Q 29 A 1 R 1 162a 163b Q 56 A 1 R 292a d Q 57 A 2 295d 297a Q 86 A 461c 462 Q 80 A 4 476c-477a

- 20 AQUINAS *Summa Theologica* PART III Q 11 A 1 R P 3 772b 773a

- 53 JAMES *Psychology* 312a 1

#### 4f The generality of essence the universality of its principles

- 7 PLATO *Republic* BK VI 383d 388 BK VI 391b 398c

- 8 ARISTOTLE *Prior Analytics* BK I CH 14-5 100a 102b CH II [77<sup>a</sup>5-9] 105d 106 c 3 14 107 109a CH 18 111b-c CH 24 116b-118a CH 3 120a c BK I CH 8-19 135d 137a c / *Physics* BK I CH 1 259 b / *Metaphysics* BK I CH 1 499a 500b CH 2 [982<sup>a</sup>21 25] 500 BK VI CH 1 [10 6<sup>a</sup>23 33] 548b- BK VI CH 5 563c 564c BK VII CH 7 [1064<sup>b</sup>6-3] 592d 593a

- 9 ARISTOTLE *Ethics* BK VI CH 3 [1 39<sup>a</sup>25 41] 388c BK VII CH 9 [1 3 23] 435b-c / *Rhetoric* BK II 2 [135<sup>b</sup>8 8-35] 596b-c

(4) *Universals and particulars in the order of knowledge* cf *The generality of science the universality of its principles*)

19 AQUINAS *Summa Theologiae* PART I Q 84 A 1 ANS 440d 442a

III HARVEY *On Animal Generation* 332a 334d esp 334c d

30 B CON *Advancement of Learning* 98c / *Novum Organum* BK I APH 17-25 108a d APH 103 106 127d 128c BK II APH 5 138b-139a APH 33 161b d

31 DESCARTES *Discourse* PART II 47c d / *Objec-tio 1a d Replet* 167c d

33 PASCAL *Vacuum* 358a b

34 NEWTON *Principles* 1a 2a BK III RULES 270a 271b / *Optics* BK III 541b 542a 543a ■

34 HUYGENS *Light* PREF 551b 552a

35 LOCKE *Human Understanding* BK IV CH I SECT 9 308d 309b CH III SECT 14 316b d SECT 28 29 322a 323a SECT 31 323c d ■ VI SECT 4 16 331d 336d passim

35 BERKELEY *Human Knowledge* INTRO SECT 12 408a b SECT 15-16 409a d SECT 62-66 425a-426a SECT 103 109 433a-434b passim SECT 126-128 438b d

35 HUME *Human Understanding* SECT I DIV 9 454c-455a SECT IV D V 26 460b c SECT VII DIV 132 509c

42 KANT *Pure Reason* 14c 15a 195d 198a esp 197b-198a 211c 218d / *Judgement* 562d 563b

45 FOURIÉ *Theory of Heat* 169a b 177a

46 HEGEL *Philosophy of Right* ADDITIONS 120 136b c / *Philosophy of History* INTRO 182d 183c P RT IV 361a b

53 JAMES *Psychology* 671a 672a 861b 886a passim esp 862a 863a 865b-866a 809a 871b 873a 874a 882a 884b

5 *Universal and particular in relation to grammar and logic*

5a *The distinction between proper and common names*

8 ARISTOTLE *Interpretation* CH 7 [17 37-40] 26d / *Sophistical Refutations* CH 22 [1, 8<sup>b</sup> 38 179<sup>a</sup> 10] 246c / *Metaphysics* BK VII CH 10 [1035<sup>b</sup> 28 32] 559b CH II [1037 5-9] 560c CH 15 [1040 8 14] 564a

19 AQUINAS *Summa Theologiae* PART I Q 13 A 9 71b 72c, A 11 73c 74b ■ 30 A 4 ANS 170c 171b ■ 33 A 2 3 181c 183c

20 AQUINAS *Summa Theologiae* PART II Q 9 A 2 ANS 424b-425a

23 HOBBS *Leviathan* PART I 55b c

35 LOCKE *Human Understanding* BK I CH I SECT 15 98d 99a BK II CH I SECT 9 145b c BK III CH I SECT 3 251d 252a CH II SECT 1-9 254d 256c SECT 22 257b CH VI SECT 42 280b c

35 BERKELEY *Human Knowledge* INTRO SECT 11 12 407b-408b SECT 18 19 410 c

38 ROUSSEAU *Inequality* 341b-342b

45 LAVOISIER *Elements of Chemistry* PREF 4b c

53 JAMES *Psychology* 310a 311a 447b 448a

5b *The classification of universals the tension and extension their degrees of generality*

7 PLATO *Theaetetus* 535c / *Sophist* 569d 574c

8 ARISTOTLE *Categories* CH 2 [1<sup>a</sup> 0-2] 5b c CH 3 [1<sup>a</sup> 10]-CH 5 [3<sup>a</sup> 24] 5d 8a / *Prior Analytics* BK I CH 27 [43 25 44] 60c d / *Posterior Analytics* BK I CH 13 131b 133c / *Topics* BK I CH 4 9 144b-147b / *Metaphysics* BK I CH 9 [991<sup>a</sup> 7 32] 509c [992<sup>b</sup> 9-13] 510d BK III CH I [995<sup>a</sup> 27 31] 514b CH 3 [998<sup>b</sup> 14-999<sup>a</sup> 23] 517b 518a BK V CH 3 [1014<sup>b</sup> 3 13] 534d CH 2 [1023<sup>b</sup> 22 25] 545c BK VII CH 12 [1036<sup>a</sup> 21] CH 13 [1039<sup>a</sup> 23] 561c 563a BK X CH 2 [1053<sup>b</sup> 16-23] 580b c BK XI CH I [1059<sup>a</sup> 21 1060<sup>a</sup>] 587d 588a

19 AQUINAS *Summa Theologiae* PART I Q 3 A 4 REP 16d 17c A 5 ANS 17c 18b Q 30 A 1 and REP 3 170c 171b Q 40 A 3 ANS 215c 216d Q 50 A 2 REP 1 270a 272a Q 66 A 2 REP 345d 347b Q 76 A 3 REP 4 391a 393a A 6 REP 1 2396a d Q 77 A 4 REP 1 403a d Q 82 A 1 451c-453c A 3 R P 4 455b-457a A 5 REP 3 457d-458d Q 86 A 2 REP 4 462a 463a Q 88 A REP 4 471c-472c PART II Q 18 A 5 II 697a 703a passim Q 30 A 4 R P 2 751c 752b Q 35 A 8 ANS and REP 3 779c 780c Q 46 A 1 813b 814a

20 AQUINAS *Summa Theologiae* PART II Q 61 A 1 REP 1 54d 55c PART III Q 10 A 3 REP 2 769d 771b

23 HOBBS *Leviathan* PART I 53b c

35 LOCKE *Human Understanding* BK II CH VI SECT 1 165c d BK III CH III SECT 8-9 256a ■ CH IV SECT 10 263b c CH VI SECT 32 33 277c 278c

53 JAMES *Psychology* 870b 871a

5c *Particulars and universals in propositions or judgments the quantity of propositions the universals the particular and the singular judgment*

8 ARISTOTLE *Categories* CH 1 3 5 d CH 5 [2 11 3<sup>a</sup> 23] 6a 8a / *Interpretation* CH 7 [1<sup>a</sup> 7 31 16] 26d 27a / *Prior Analytics* BK I CH I [24 16-21] 39a / *Posterior Analytics* BK I CH 10 [77 3 4] 105d / *Soul* BK I CH II [434 16-22] 667a

9 ARISTOTLE *Ethics* BK II CH 7 [1107 27 31] 352d 353 BK II CH I [1110<sup>b</sup> 28 1111<sup>a</sup> 2] 356c d BK VII CH 3 [114<sup>a</sup> 35 1147<sup>a</sup> 9] 397a b [147 25 148] 397c 398a

19 AQUINAS *Summa Theologiae* PART I Q 13 A 9 ANS 71b 72c Q 30 A 4 ANS and REP 3 170c 171b Q 85 A 5 REP 3 457d-458d

20 AQUINAS *Summa Theologiae* PART II Q 61 A 1 ANS 141a c Q 77 A 2 145d 147c

- 35 LOCKE *Human Understandg* BK IV CH V  
SECT 10 331a CH VI 331b 336d CH IX SECT I  
349a H VI SECT 13-14 357d 358c CH XVII  
SECT 8 377b-d
- 42 KANT *Pure Reason* 14c 15c 39a-41c esp 39d  
40a 51d 52b
- 5d Rules concerning the unversality and  
particularity of prem ses in re oning  
the quant ty of the conclusion in rel  
tion to the quantity of the premises
- 8 ARI TOTLE *Prior A* 1st BK I CH 4 7 40d  
45b CH 24 58b-d CH 26 59d 60b / *Posterior*  
*A* 1st BK I CH 14 108d 109a CH 24 116b  
118a
- 9 ARISTOTLE *Ethics* BK VII CH 3 [146<sup>b</sup>35-  
147<sup>b</sup>18] 397a 398a / *Rhetoric* BK I CH 2  
[357<sup>a</sup>23 324] 596d 597c
- 10 AQUINAS *Summa Theologica* P RT I Q 86  
A 1 R P 2 461c 462a
- 20 AQUINAS *Summa Theologica* PART II Q 6  
A AN 141a Q 77 A 145d 147c
- 35 LOCKE *Hum U derstan d g* K IV CH XVII  
S CT 8 377b d
- 42 KANT *Pur Res on* 110d 112d esp 110d 111c  
118a c / *J dgement* 540a b esp 540b [fn i]
- 6 Applicat on of the d stinction betw en univ  
ersal and particular
- 6a P rticular and univer al in the analysis of  
matter and form
- 8 ARI TOTLE *Metaphys* K V CH 28 546b c  
K VI CH I [035<sup>a</sup>28 32] 559b CH II [37<sup>a</sup>  
5-9] 560c K V CH 4-5 599d 601a BK X I  
H I 618c 619a c esp [087<sup>a</sup>10-23] 619c / *S ul*  
BK I CH I [412 6-8] 642a BK III CH 5  
[430 10-17] 662
- 17 PLOTINUS *S ond En e d* TR IV 50a 57 /  
*S th Enne d* TR II CH 3 282a c
- 19 AQUINAS *Summa Theologica* RT Q 3  
RE 3 15 16 A 3 ANS 16a d Q 4 A  
RE 3 20d 21b Q 7 A 1 ANS 31a d Q 4 A 1  
AN 84c 85c R 19 A 6 ANS 113c 114d Q 9  
A REP 4 162a 163b A R 3 163b 164b  
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Other discussions of the true the good and the beautiful as objective or subjective absolute  
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## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups:

I. Works by authors represented in this collection

II. Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

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## Chapter 97 VIRTUE AND VICE

### INTRODUCTION

IN their currently popular connotations the words virtue and vice have extremely limited significance. Virtue tends to be identified with chastity or at least with conformity to the prevailing standards of sexual behavior. The popular notion of vice retains a little more of the traditional meaning insofar as it implies injury to a person's character or health as the result of strong *habitual* addictions. But as in the case of virtue, the things which are popularly called vices are largely concerned with pleasures or sensual indulgences.

In the tradition of the great books, however, the scope of these terms and the range of the problems in which they are involved seem to be co-extensive with morality, or in other words with the broadest consideration of good and evil in human life, with what is right and wrong for man not only to do but also to wish or desire, and even to think. For some of the great moral philosophers, other terms—such as duty for Marcus Aurelius and Kant, or pleasure and utility for Mill—seem to be more central. But for Plato, Aristotle, and Aquinas, virtue is a basic moral principle. By reference to it they define the good man, the good life, and the good society. Yet even for them it is not the first principle of ethics. They define virtue itself by reference to a more ultimate good—happiness. For them the virtues are ordered to happiness as means to an end.

THE ANCIENT ENUMERATION of particular virtues may show the range of things comprehended under the notion of virtue generally. It may also further sharpen the contrast with the contemporary tendency to use the words virtue and vice as if they applied only to matters which fall within the sphere of one of the virtues. That one is the virtue which both Plato and Aristotle call temperance, and which they

conceive as concerned chiefly with the bodily appetites and pleasures. Plato and Aristotle give somewhat different enumerations, but courage and justice are as fundamental for them as temperance, and when certain virtues come later to be classified as the cardinal or principal virtues, the other three are always named together. In that classification there is a fourth—prudence, or as it is sometimes called, practical wisdom.

Plato's enumeration of the virtues in the *Republic* also adds wisdom to temperance, courage, and justice. This indicates at once that the ancient conception of virtue as the quality which makes a man good extends to his mind as well as to his character—to the sphere of thinking and knowing as well as to desire, emotion, and action. Aristotle makes this explicit by dividing all the virtues into moral and intellectual, or excellences of character and of mind. He names five intellectual virtues, in addition to wisdom and prudence (which he distinguishes as speculative and practical wisdom); he lists art, science, and what he calls intuitive reason, which Aquinas later calls understanding.

The division of the virtues into moral and intellectual leads in Aristotle's analysis to the further distinction between those intellectual virtues—understanding, science, wisdom—which represent the possession of speculative insight or theoretic knowledge, and those—art and prudence—which represent skill in practical thinking or in the application of knowledge to production and action respectively. Because it is concerned with action, or moral conduct, the virtue of prudence is most closely associated with the moral virtues of justice, courage, and temperance. They are grouped together by Aquinas of these four as the cardinal virtues, calling the implication that the remaining four (science, art, and the three virtues of the speculative rea-

son) play a secondary role. The implication is simply that a man may be made good as a scientist or good as an artist by the acquisition of these virtues but he is not made good as a man by these virtues nor do they enable him to lead a good life and achieve happiness as do the moral virtues accompanied by prudence.

In line with the principle by which he regards certain virtues as cardinal or indispensable for human rectitude and welfare the Christian moralist goes further than the moral philosopher in developing the theory of virtue. Considering man's limitations and his fallen nature he holds that more than all the natural virtues (*i.e.* the virtues which men can attain by their own effort) is required for salvation—for the supernatural end of eternal happiness. Faith, hope and charity according to St. Paul are indispensable to lift man's life to a plane and direct it to a goal which exceed his nature. These gifts of God's grace are subsequently treated by Augustine and Aquinas as virtues—supernatural not natural virtues. Aquinas specifically calls them theological virtues to distinguish them from other supernatural endowments such as the infused moral virtues and the gifts of the Holy Ghost.

THE READER MAY OBSERVE that of all the virtues so far named only the three theological virtues are not the subject of separate chapters in this collection of great ideas. The chapters on COURAGE JUSTICE TEMPERANCE PRUDENCE WISDOM may include discussions of these qualities which do not specifically treat them as virtues. Certainly that is true of the chapters on ART and SCIENCE and the chapter on PRINCIPLE wherein the virtue of intuitive reason or the understanding of first principles is considered. Nevertheless that all but one of these chapters bear the name of the traditionally recognized virtues indicates how widely and variously they make their appearance throughout the great books—by example and comment in poetry and history as well as by definition and analysis in the ethical and political treatises. In contrast the theological virtues appear only in Christian not pagan literature and then mainly in religious rather than secular writing.

It is also of interest to note the relation which this chapter bears to those dealing with other

fundamental concepts of moral philosophy or theology. Some of the terms mentioned in the foregoing paragraphs—duty pleasure happiness good—name chapters which are co-implicated with this one in the problem of how men should live and what they should seek. The Outline of Topics will reveal still others—knowledge desire emotion reason will wealth honor friendship teaching family state citizen law sin and grace—each of which is (or indicates) the title of a chapter that treats of matters related to virtue as cause or consequence as psychological factor or external condition.

One chapter not yet mentioned has maximum relevance for most of the authors who offer some analysis of virtue. The chapter on HABIT treats an idea that is crucial to the definition of virtue. Aquinas for example allocates the discussion of virtue and vice to his Treatise on Habit in the *Summa Theologica*. He divides this treatise into questions concerning habits in general and questions concerning good and evil habits—or virtues and vices—in particular. But the notion that virtue combines the elements of habit and goodness is not peculiarly his. With varying degrees of emphasis and explicitness it appears in Plato and Aristotle in Augustine Bacon Hegel and James Kant alone expressly dissents declaring that virtue is not to be defined and esteemed merely as habit and as a long custom acquired by the practice of morally good actions.

THE DISCUSSION OF VIRTUE originates in the dialogues of Plato and the *Ethics* of Aristotle with a number of related questions. Meno's opening question—Can you tell me Socrates whether virtue is acquired by teaching or by practice or if by neither teaching nor practice then whether it comes to man by nature or in some other way?—requires in the opinion of Socrates other questions to be faced: what virtue is how virtue is related to knowledge whether virtue is one or many and if many how the several particular virtues are related to one another.

In the course of the dialogue each of the alternatives is considered. If virtue were identical with knowledge it could be taught and learned just as geometry is. If virtue were simply a hab-

■ it could be acquired by practice that is by the repetition of similar acts But neither practice nor teaching seems by itself to explain how men come by virtue and even less why virtuous fathers should so often fail to produce virtue in their sons Yet Socrates does not completely dismiss these possibilities or the possibility considered at the end that virtue comes ■ the virtuous by the gift of God What truth there is in each of them he concludes cannot be determined until we know precisely what virtue is

Another dialogue the *Protagoras* pursues a similar inquiry and seems to reach a similarly indeterminate conclusion The relation of virtue to knowledge here leads to the question whether wisdom and temperance and courage and justice and holiness are five names of the same thing To the extent that each depends on knowledge of what is good and evil they would seem to be if not identical at least inseparable aspects of the same thing Protagoras objects on the score that a man may be courageous and at the same time utterly unrighteous unholy intemperate ignorant But Socrates finally gets him to admit reluctantly that courage consists in knowledge and cowardice in ignorance of what is and is not dangerous

It was Protagoras, however who originally contended against Socrates that virtue can be taught The reduction of all the virtues to some form of knowledge would therefore seem to confirm his opinion Socrates in winning the argument about virtue and knowledge seems ■ overthrow his own view that virtue cannot be taught The result of our discussion Socrates says at the end appears to me to be singular For if the argument had a human voice that voice would be heard laughing at us and saying Protagoras and Socrates you are strange beings there are you Socrates who were saying that virtue cannot be taught contradicting yourself now by your attempt to prove that all things are knowledge including justice and temperance and courage—which tends to show that virtue can certainly be taught Protagoras on the other hand who started by saying that it might be taught is now eager to prove it to be anything rather than knowledge

The only way this terrible confusion of our

ideas might be cleared up Socrates suggests is for the conversation to go on until we ascertain what virtue is But that particular conversation does not go on nor do the definitions of virtue which are proposed in other Platonic dialogues seem to be decisive on the point whether virtue is knowledge or whether it can be taught In the *Laws* for example the Athenian Stranger saying that harmony of the soul taken as a whole ■ virtue proposes that education should consist in training the first instincts of virtue in children by producing suitable habits in them But his training does not seem to be like ordinary teaching the inculcation of knowledge It is training in respect of pleasure and pain whereby we are led to hate what we ought to hate and love what we ought to love

In the *Republic* Socrates compares the harmony produced by virtue in the soul with the harmony of the parts in a healthy body Virtue is the health and beauty and well being of the soul he declares and vice the disease and weakness and deformity of the same Though wisdom consists in the rule of the other parts of the soul by reason in the light of knowledge of what is for the interest of each of the parts and of the whole it does not seem to be the whole of virtue nor does Socrates suggest that men become virtuous simply by becoming wise On the contrary he intimates that good practices lead to virtue and evil practices to vice and that like certain bodily qualities the virtues of the soul can be implanted by habit and exercise

It is sometimes supposed that Aristotle differs from Plato on fundamental points in the theory of virtue The fact that Aristotle criticizes Socrates for thinking that all the virtues are forms of practical wisdom seems to imply a basic disagreement on the relation of virtue to knowledge But Aristotle also remarks that Socrates was right in saying they implied practical wisdom His own view that the moral virtues of courage temperance and justice are inseparable from the intellectual virtue of prudence does not seem to differ substantially from the statements of Socrates that virtue must be a sort of wisdom or prudence and that virtue is either wholly or partly wisdom Such differ

ence as there appears to be not so much in what is being affirmed or denied as in the manner of statement or analysis and beyond that perhaps in a method of exposition which permits Aristotle to give definite answers to questions Plato's dialogues often leave unanswered.

Aristotle's analysis of course sometimes changes the questions themselves to make them answerable but this is not always so. His summary of existing opinions concerning the acquisition of virtue—that some think we are made good by nature others by habituation others by teaching—is nearly equivalent as an enumeration of the possibilities to Meno's opening question. But where Socrates in answering Meno contents himself with suggesting that there may be some truth in each possibility as against the others Aristotle definitely affirms that the whole truth about the matter combines all three factors. There are three things he writes which make men good and virtuous: these are nature, habit, rational principle. Even Socrates' final point that virtue may be a gift of God seems to be affirmed by Aristotle's comment that in effecting virtue nature's part evidently does not depend on us but as a result of some divine causes is present in those who are truly fortunate.

But in the case of two Platonic questions—the one about the relation of virtue to knowledge and the other about the unity of virtue—Aristotle's analysis transforms the problem. His basic distinction between moral and intellectual virtue turns the question about virtue and knowledge into one concerning the role which one very special kind of knowledge represented by the virtue of prudence plays in the formation and operation of good moral habits—habits in the sphere of action and passion or of the will and the emotions. By substituting a number of distinct intellectual virtues for the single term knowledge Aristotle can definitely answer both Yes and No to the question. Not all the intellectual virtues, not art and science or even speculative wisdom are needed for courage, temperance and justice but if by knowledge is meant nothing more than prudence then Aristotle affirms these moral virtues to involve knowledge of a sort.

The distinction between moral and intellectual virtue also enables Aristotle to reformulate

the problem of the unity of virtue. Instead of asking whether there is only one virtue having many aspects or many distinct virtues he considers which virtues are interdependent and which can exist separately from one another. Virtue has unity in the inseparability of the moral virtues from one another and from prudence. The sailor who appears to be courageous without being temperate or the thief who appears to be prudent without being just has only the appearance of these virtues. But though Aristotle uses the phrase perfect virtue to signify both the integration of these virtues and the perfection of each when it is integrated with the others he does not include all the particular virtues in the unity of virtue. Some like art and science can exist apart from prudence or the moral virtues and they from it.

By showing how all of the moral virtues depend upon prudence or practical wisdom Aristotle thinks he is able to refute the argument that the virtues exist in separation from each other. But he does not find any greater unity of the virtues than is involved in their inseparability as a result of their common dependence on prudence. Following Aristotle Aquinas criticizes those who assert a more profound unity by claiming that prudence, temperance, fortitude and justice signify only certain general conditions to be found in all the virtues. This according to Aquinas is tantamount to denying that they are distinct habits.

Insisting that they are really distinct as habits Aquinas nevertheless suggests that these four virtues qualify one another by a kind of overflow. For he explains the qualities of prudence overflow into the other virtues in so far as they are directed by prudence. And each of the others overflows into the rest for the reason that whoever can do what is more difficult can do what is less difficult. The man who can curb his desires for the pleasures of touch which is a very hard thing to do is more able to check his daring in dangers of death which is much easier. The man who can withstand the dangers of death which is a matter of great difficulty is more able to remain firm against the onslaught of pleasures.

As for justice Aquinas holds that legal justness by command draws the other virtues.

them all into the service of the commonweal. Aristotle also sees a certain unification of the virtues—at least all the moral virtues in terms of justice—the kind of justice he calls general. ■ distinguish it from the special virtue of justice. He conceives general justice as comprising all the moral virtues including special justice insofar as all these virtues are directed toward the welfare of society and the good of other men. Justice in this sense he writes is not a part of virtue but virtue entire. Holding that it is complete virtue not absolutely but in relation to our neighbor he also adds that it is complete because he who possesses it can exercise his virtue not only in himself but towards his neighbor as well.

Some writers tend in the opposite direction toward a greater separation of the virtues. Justice according to Marcus Aurelius is prior to the other virtues for in justice the other virtues have their foundation. In suggesting that a man can secure a favorable and commodious interpretation of his vices by coloring them in the light of his virtues Bacon seems to accept the conjunction of virtue with vice which is expressed in the familiar phrase the defects of one's virtues. That a gentleman may with honor be permitted certain failings is similarly implied by Dr Johnson's reference to the genteel vices.

This comfortable doctrine that a man can be truly virtuous in some aspects of character while vicious in others seems however to be rejected by Montaigne and Kant as well as by Plato and Aristotle. The standard of Christian virtue is even more stringent. What may appear to be virtues are according to Augustine rather vices than virtues so long as there is no reference to God in the matter. For although some suppose that virtues which have a reference only to themselves and are desired only on their own account are yet true and genuine virtues the fact is that even they are inflated with pride and are therefore to be reckoned vices.

The theological virtue of charity—the love of God—is held by the theologians to be indispensable to the perfection of all the other virtues in a Christian life. Not only according to Aquinas do faith and hope lack the perfect character of virtue without charity but all

the other virtues are imperfect in its absence.

It is possible by means of human works he writes to acquire the moral virtues in so far as they produce good works that are directed to an end not surpassing the natural ability of man. And when they are acquired thus they can be without charity even as they were in many of the pagans. But in so far as they produce good works in relation to a supernatural last end thus they have the character of virtue truly and perfectly and cannot be acquired by human acts but are infused by God. Such moral virtues cannot be without charity. Only the infused virtues are perfect and deserve to be called virtues absolutely. The other virtues those namely that are acquired are virtues in a restricted sense.

THAT VIRTUE IS GOOD and vice evil seems to go undisputed in the tradition of the great books even by Machiavelli who bemoans the necessity of vice in a successful prince. But unanimity on this point does not preclude a variety of answers to the question. What is the good of virtue?

Is it an end in itself or a means and if a means what end does it serve? Moreover what is the principle of goodness in the virtues? Does ■ lie in the rule of reason in conformity to nature in obedience to the moral law and the imperative of duty in submission to God's will? Or are the virtues good only to the extent that they are useful and profitable? To the individual alone or to society as well? As these questions are differently answered different conceptions of virtue appear.

Marcus Aurelius gives the simplest and most familiar answer. Virtue is its own reward.

What more dost thou want the Stoic asks when thou hast done a man's service? Art thou not content that thou hast done something conformable to thy nature and dost thou seek to be paid for it? The virtues are not only self-rewarding but they are the only things in which a good man can take delight. When thou wishest to delight thyself Aurelius says think of the virtues of those who live with thee. For nothing delights so much as the examples of the virtues.

Locke seems to make profit or utility the source of goodness in the virtues. God has



ing by an inseparable connexion joined virtue and public happiness together. Locke writes and made the practice thereof necessary to the preservation of society and visibly beneficial to all with whom the virtuous man has to do it is no wonder that everyone should not only allow but recommend and magnify those rules to others from whose observance of them he is sure to reap advantage to himself.

The virtues seem to become conventional in Locke's view. They are whatever the members of a particular society deem advantageous.

Virtue and vice are names pretended and supposed everywhere to stand for actions in their nature right and wrong and as far as they are really so applied they are so far coincident with the divine law. But yet what ever is pretended. Locke adds this is visible that these names virtue and vice in the particular instances of their application through the several nations and societies of men in the world are constantly attributed only to such actions as in each country and society are in reputation or discredit. Thus the measure of what is everywhere called and esteemed virtue and vice is the approbation or dislike, praise or blame which establishes itself in a society according to the judgment maxims or fashion of that place. That this is the common measure of virtue and vice will appear. Locke thinks to anyone who considers that though that passes for vice in one country which is counted a virtue or at least not a vice in another yet everywhere virtue and praise vice and blame go together.

Hobbes also regards the names of the virtues as inconstant names varying according to the nature disposition and interest of the speaker for one man calleth *wisdom* what another calleth *fear* and one *cruelty* what another *justice* one *prodigality* what another *magnanimity*. Yet this does not prevent Hobbes from proposing a list of virtues which derive their goodness from the natural law. All men agree on this he writes that peace is good and therefore also the ways or means of peace which are *justice gratitude modesty equity mercy* and the rest of the Laws of Nature are good that is to say *Moral virtues* and their contrary *vices* evil.

Moral philosophy according to Hobbes is

the science of Virtue and Vice and therefore the true doctrine of the Laws of Nature is the true moral philosophy. Though other writers of moral philosophy acknowledge the same virtues and vices Hobbes thinks they do not see wherein consisted their goodness nor that they come to be praised as the means of peaceable sociable and comfortable living.

Like Kant he criticizes Aristotle's doctrine of the mean or as Hobbes refers to it the notion that virtue consists in a mediocrity of the passions as if not the cause but the degree of doing made *fortitude* or not the cause but the quantity of a gift made *liberality*. The cause of virtue according to Hobbes is the natural law commanding men to do whatever is required for peace and self preservation. In terms of a quite different conception of law and duty Kant also says that the difference between virtue and vice cannot be sought in the degree in which certain maxims are followed but only in the specific *quality* of the maxims. In other words the vaunted principle of Aristotle that virtue is the *mean* between two vices is false.

It is not Kant but Spinoza who seems to bear an affinity to Hobbes in the theory of virtue. Both make self preservation the end which determines the direction of virtuous conduct. Both consider civil peace or the good of others in relation to self. Both draw up lists of moral virtues from their enumeration of the passions. Hobbes by reference to natural law Spinoza in terms of adequate ideas of God's nature. Spinoza identifies virtue with power and holds that the more each person strives and is able to seek his own profit that is to say to preserve his own being the more virtue does he possess. But though he makes the endeavor after self preservation the primary and only foundation of virtue he conceives self preservation itself to have its foundation in knowledge of God.

To act in conformity with virtue Spinoza maintains is to act according to the guidance of reason and every effort which we make through reason is an effort to understand and therefore the highest good of those who follow after virtue is to know God that is to say it is a good which is common to all men and can be equally possessed by all in so far as they are of the same nature. In direct consequence he

declares that the good which everyone who follows after virtue seeks for himself he will desire for other men and his desire on their behalf will be greater in proportion as he has greater knowledge of God

ALL THOSE WHO RELATE virtue to happiness do not do so in the same way. The multiplication of happiness writes Mill is according to the utilitarian ethics the object of virtue. He attributes to a very imperfect state of the world's arrangements the fact that anyone can best serve the happiness of others by the absolute sacrifice of his own yet so long as the world is in that imperfect state he goes on to say the readiness to make such a sacrifice is the highest virtue which can be found in man.

But Mill repeatedly insists that only an increase of happiness justifies sacrifice and only its contribution to happiness makes virtue good. He criticizes the Stoics for striving to raise themselves above all concern about anything but virtue and for supposing that he who has that has everything. No claim of this description is made for the virtuous man by the utilitarian doctrine.

While admitting that virtue may come to be desired disinterestedly as an ingredient of happiness rather than as a means to it Mill does not regard virtue as a natural and necessary condition of happiness. Virtue according to the utilitarian doctrine is not naturally and originally part of the end but it is capable of becoming so. If there are some who do not desire virtue either because it gives them no pleasure or because the lack of it causes them no pain they can be happy without it.

The view taken by Plato and Aristotle seems to be directly contrary. All things which have ends appointed by their nature Socrates argues at the beginning of the *Republic* must also be capable of virtues or excellences whereby to achieve their ends. If happiness is the end of the soul or of human life then we must look to such excellences as the virtue of justice and temperance to provide the means. When Glaucon and Adeimantus ask Socrates to prove that only the virtuous man can be happy he undertakes the long analysis of the parts of the soul and the parts of the state to discover the virtues appropriate to each and to the whole.

When the virtues are defined Glaucon admits that the question he originally asked has now become ridiculous.

The answer to the question is evident as soon as virtue and happiness are seen to be reciprocal notions like cause and effect. Yet Aristotle's definition of moral virtue as a habit of choice consisting in a mean—a mean relative to our selves determined by reason or as the prudent man would determine it—does not immediately explain why happiness is defined as the realization and perfect exercise of virtue. The connection between virtue as means and happiness as end becomes apparent only in terms of the conception that happiness is the ultimate end because it includes all good things and leaves nothing to be desired.

As an object of desire as something worth having in itself virtue is only one type of good. It does not constitute happiness. Happiness according to Aristotle includes as well such bodily and external goods as health and pleasure friendship and wealth. But unlike these other goods the virtues alone are capable of producing happiness because in Aristotle's view they are the causes of our thinking and acting well with respect to all other goods.

We do not acquire or preserve virtue by the help of external goods. Aristotle says but external goods by the help of virtue. This applies to health and pleasures no less than to wealth and friends. Because the moral virtues together with prudence direct our desires determine our choices and govern our actions in accordance with reason's discrimination between real and apparent goods the exercise of these habits results in happiness or living well. But since external goods are goods of fortune and not entirely within our control Aristotle finds it necessary to qualify the definition of happiness. To the statement that the happy man is one who is active in accordance with complete virtue he adds that he is one who is sufficiently equipped with external goods not for some chance period but throughout a complete life.

According to Kant the conception of virtue and happiness may be understood in two ways either the endeavor to be virtuous and the rational pursuit of happiness as not two distinct actions but absolutely identical or the con-

nexion consists in this that virtue produces happiness as something distinct from the consciousness of virtue as a cause produces an effect. Kant thinks that both the Stoic and Epicurean doctrines choose the first of these alternatives. They differ from each other in his opinion only in the way they conceive the identity of virtue and happiness. The Epicurean notion of virtue, he writes, was already involved in the maxim to promote one's own happiness. According to the Stoics on the other hand, the feeling of happiness was already contained in the consciousness of virtue.

Kant's own resolution of what he calls the *antinomy of practical reason* seems to depend on his conception of the *summum bonum*. For him it is not happiness; it consists rather in being worthy of happiness through doing one's duty. Morality, he says, is not properly the doctrine how we should *make* ourselves happy, but how we should become *worthy* of happiness. Under the moral law, to be happy is not a duty, but to be worthy of happiness is. In Kant's view, therefore, virtue is related to happiness through the medium of duty. Virtue, he declares, is a coincidence of the rational will with every duty firmly settled in the character. It is the moral strength of a man's will in his obedience to duty.

But in addition to being the will's strength in overcoming obstacles—the natural inclinations which may come into conflict with the moral purpose—*virtue* or rather the imperative which commands the duty of virtue includes besides the notion of constraint that of an end. Not an end that we have, Kant explains, but one that we ought to have, an end which therefore pure practical reason has in itself, whose highest unconditional end (which however continues to be a duty) consists in this that virtue is its own end, and by deserving well of men is also its own reward.

THE ISSUE BETWEEN KANT and Aristotle concerning the good of virtue as a means or an end involves the whole of their moral philosophy. It goes to the central conflict between their fundamental principles, which is discussed in the chapters on DUTY and HAPPINESS. Fundamental differences in political philosophy also arise from different views of virtue in relation to the

forms of government and the ends of the state.

The ancients for example define aristocracy in terms of virtue. The point is not only that aristocracy is a form of government in which the few who are most virtuous rule; it is also that form of government the principle of which is virtue, as liberty is the principle of democracy and wealth of oligarchy. Montesquieu makes virtue the principle in republican government, in contrast to honor as the principle in monarchies and fear in despotism. What I distinguish by the name of virtue in a republic, he explains, is the love of one's country—that is, the love of equality. It is not a moral nor a Christian, but a political virtue, and it is the spring which sets republican government in motion, as honor is the spring which gives motion to monarchy. Since for Montesquieu both democracy and aristocracy are forms of republican government, the former rests on virtue as much as the latter.

Agreeing that the conditions Montesquieu sets for republican government could not exist without virtue, Rousseau criticizes him for failing to see that the sovereign authority, being everywhere the same, the same principle should be found in every well constituted state, in a greater or less degree; it is true according to the form of government. So for Mill, virtue defines the aim of good government itself without respect to particular forms. The most important point of excellence which any form of government can possess, he writes, is to promote the virtue and intelligence of the people themselves.

The virtues which a government promotes, however, may be those of the good citizen rather than the good man. This distinction between civic and moral virtue occupies the ancients, related as it is to the problem of the virtuous man living in a bad society—a problem which Socrates actually faces, as well as discusses in the *Apology* and the *Crito*.

The virtue of the citizen, Aristotle writes, must be relative to the constitution of the state of which he is a member. Hence it is evident that the good citizen need not of necessity possess the virtue which makes a good man. Yet in some states the good man and the good citizen are the same.

In this vein Aquinas considering whether the laws should try to make men good says of a tyrannical or unjust law that in so far as it has something of the nature of law its aim is that the citizens be good. At least it aims at being obeyed by them and this he adds is to make them good not absolutely but with respect to

that particular government. But Aquinas also contemplates the need for disobeying a civil ordinance if it demands too great a sacrifice of virtue by requiring the citizen to violate the natural or the divine law. As Rousseau later says a man's duty takes precedence over that of a citizen.

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**PAGE SECTIONS** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 *J* *res* *Psychology* 116a 119b the passage begins in the upper half of page 6 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 *PLATO* *Sympos* m 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *I* 1d BK II [265 283] 12d

**BIBLE REFERENCES** The references are to book chapter and verse. When the King James and Douay versions differ in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. *OLD TESTAMENT* *Nehemiah* 7.45—(D) *II Esdras* 7.46

**SYMBOLS** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole ref. enc. passum signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

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- 35 BERKELEY *Human Knowledge* SECT 100 432b c
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- 36 SWIFT *Gulliver* PART I 28b 29a PART IV 160a 165a 166a
- 37 FIELDING *Tom Jones* 182a-c
- 38 ROUSSEAU *Inequality* 345a c
- 42 KANT *Pur Reason* 149d / *Fund Pn Metaphysc of Morals* 260d 261d 282b 283d / *Pract cal Reason* 358c / *Pref Metaphys: cal Elements of Ethics* 368c 369a
- 46 HEGEL *Philosophy of Right* PART II par 139-140 48d 54a passim / *Philosophy of History* PART II 280b 281b
- 51 TOLSTOY *War and Peace* BK V 195c 201c esp 200a 201c BK VI 244d 245c 248b-250a
- 53 JAMES *Psychology* 82a 81 806a 808a
- 54 FREUD *General Introduction* 560c d

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- 7 PLATO *Laches* 32a 37b / *Protago* as 48a 50d 58a 64d / *Meno* 174 190a c esp 175a d / *Republic* BK IV 346a 355 / *Statesman* 605d 607a / *Lysis* BK I 643b d BK X 1 795c 797b

- 9 ARISTOTLE *Ethics* BK I CH 13 347b 348d  
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- 12 AURILIUS *Medicinis* BK VI S CT 10 303b c
- 17 PLOTINUS *Fi* t *Ennead* TR II CH 7 9 10a  
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- 18 AUGUSTINE *Confessions* K IV PAR 24 25b c
- 20 AQUINAS *Summa Theologiae* PART I Q 60  
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- 25 MONTAIGNE *Essays* 204c d
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- 33 P. C. L. *Pensées* 20 175a
- 34 KAN *Pref Met physical Elements f Ethics*  
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- 43 MILL *Utilitarianism* 469a b
- 46 HEGEL *Philosophy of Right* PART I PAR 96  
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- 5 A SCHYLUS *Eumenides* [490-565] 86b-87a
- 7 PLATO *Charmides* Ta / *Laches* 35 d /  
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- 9 ARISTOTLE *Ethics* K I CH 2 [ 4 10-26]  
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- 11 N COMA HUS *Athetics* BK I 820a 826d  
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- 14 PLUTARCH *Corinthia* 174b d 175a
- 17 PLOTINUS *Fi* t *Ennead* TR II CH 2 7b-c
- 20 AQUINAS *Summa Theologiae* K RT I Q 64  
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- 21 DANT *De ne Comedie* ELL VI [ 66] 9c  
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- 22 CHAUCER *Troilus and Criseyde* d K TANZA  
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- 23 HOBBS *Leviathan* ART I 96b
- 25 MONTAIGNE *Essay* 89b d
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- 30 BACON *Advancement of Learning* 79b 81
- 31 D. S. R. S. D. S. PAR 48b-49d
- 31 S. OZ *Ethics* PART V ROP 42 44 437b  
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- 33 P. S. AL. *Pensées* 350-36 234a 235a 378  
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- 38 MONSIEUR *Spirit of Law* K XX X  
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- 42 KANT *Pref Met phy l Elements f Ethics*  
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- 46 HEGEL *Philosophy of Right* K PAR 5  
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- 1d Virtue as an intrinsic good its relation to  
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- 7 PLATO *Gorgias* 275b 284d / *Republic* BK I  
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- 9 ARISTOTLE *Ethics* K I CH 7 9 342c 345c  
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- 12 E. GREGORY *De consolatione* BK I CH 4 108d 110a  
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- 12 AURILIUS *Medicinis* BK III SECT 12  
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- 14 P. UT. CH. *Arts* d 255 d
- 17 PLOTINUS *Fi* t *Ennead* TR I CH 3 4 7c 8c  
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- 18 AUGUSTINE *City of God* K VIII CH 8-9  
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- 20 AQUINAS *Summa Theologiae* P RT I Q 8  
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- 25 MONTAIGNE *Essays* 28a d 71a 72b 301d  
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- 27 SHAKESPEARE *All Well That Ends Well*  
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- 31 S. NOVA *Ethics* PART IV PRO 19-28 429d  
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- 35 LOCK *Human Understanding* d K I CH 11  
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- 37 F. D. M. *Tales* 315a c
- 42 KANT *Pure Reason* 234 240b esp 235a b  
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291 361d esp 297a 314d 325 327d 329a  
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- 43 MILL *Utilitarianism* 445 464d esp 452  
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- 49 D. R. W. *De cent f M* 316 317 592d  
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- 51 T. T. W. *De P* K V 214 215b



(1) *Diverse conceptions of the 1d & 1e as an intrinsic good & its relation to happiness*

- 52 DOSTOEVSKY *Brothers Karama* bk II 26a  
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54 FREUD *Civilization and Its Discontents* 793a  
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1e The distinction between virtue and continence the consequences of the theory of virtue as li bit

- ARISTOTLE *Topics* BK IV CH 5 [125<sup>b</sup>20 28] 174d 175a  
9 ARISTOTLE *Ethics* BK II CH I 348b d 349b  
BK IV CH 9 [1128<sup>b</sup>34 35] 376c BK VII CH I 10 395a-403  
19 AQUINAS *Summa Theologica* PART I Q 95 A 3 RE 4 508a 509b  
20 AQUINAS *Summa Theologica* PART I II Q 50 26a 29d Q 58 A 3 REP 2 43b 44a Q 109 A 10 ANS 347a d PART III Q 7 A 2 REP 3 746c 747b  
21 DANT *Divine Comedy* HELL XI [79-90] 15d 16a  
25 MONTAIGNE *Essays* 200d 204d esp 203a b 494d 495a  
27 SHAKESPEARE *Hamlet* ACT III SC IV [160-1, 0] 56b  
37 FIELDING *Tom Jones* 122d 123a  
42 KANT *Pref Metaphysical Elements of Ethics* 368d 378a W  
■ MILL *Utilitarianism* 464b c  
44 BOSWELL *Johnson* 375b c  
49 DARWIN *Descent of Man* 311c  
53 JAMES *Psychology* 81b 83b

2 The classification of the virtues the correlation of vices

- 7 PLATO *Republic* BK IV 346a 355c / *Laws* BK I 643c  
9 ARISTOTLE *Ethics* BK I CH 13 BK II II 9 347b 355a BK III CH 5 [1115 3] BK VI CH 13 [1145 14] 361a 394d  
17 PLOTINUS *First Ennead* TR II C 1 2 3 7b 8a  
20 AQUINAS *Summa Theologica* PART I II QQ 57-6 35a 63a  
21 DANTE *Divine Comedy* esp HELL V 15a 16b PURGATORY XVII [82 139] 79b d PARADISE IV [28-63] 111a b  
23 HOBBS *Leviathan* PART I 62c 63d  
31 SPINOZA *Ethics* ■ RT IV PRO 41-73 437a 447a

2a The division of virtues according to the parts or powers of the soul the distinction between moral and intellectual virtue the theory of the cardinal virtues

- 7 PLATO *Republic* BK IV 346a 35a BK VII 390a / *Laws* BK I 643c  
8 ARISTOTLE *Physics* BK VII CH 3 [246 10-248 8] 329c 330d

- 9 ARISTOTLE *Ethics* BK I CH 13 347b 348d BK II CH I [1103 14 18] 348b BK VI II 2 387a 388b CH 12 [1144 1 11] 393c d CH 13 394b d BK X CH II [11, 8 8 18] 432d-433b / *Politics* BK VII CH 14 [1333 16-30] 538a CH 15 [1334<sup>b</sup>8 28] 539b d BK VIII CH 2 [1337<sup>b</sup>33 11 542b-c

- 17 PLOTINUS *First Ennead* TR II CH 2 3 7b 8a TR III CH II 11d 12b

- AUGUSTINE *City of God* BK V CH 20 225b-226a BK XIX CH 4 511a 513c

- 19 AQUINAS *Summa Theologica* PART I Q 113 A 1 REP 2 576a d

- 20 AQUINAS *Summa Theologica* PART I II Q 51 A 3 14b 15a Q 53 A 1 ANS and REP 3 19d 21a Q 56 29d 35a Q 58 41a-45c Q 61 54d 59d Q 65 A 1 70b 72a Q 68 A 8 95c 96c PART II II PROLOGUE 379a b

2a(1) Enumeration and description of the moral virtues

- 8 ARISTOTLE *Physics* BK VII CH 3 [246<sup>b</sup>20-247 19] 330a b

- 9 ARISTOTLE *Ethics* BK I CH 13 [1103 3] 10<sup>1</sup> 348c d BK II CH 7-8 352d 354d BK III CH 5 [1115 3] BK V CH II [1138<sup>b</sup>15] 361a 387a c / *Politics* BK I CH 13 [1260<sup>b</sup>10-28] 454d / *Rhetoric* BK I CH 9 [1366<sup>b</sup>1 22] 608d 609a

- 12 AURELIUS *Meditations* BK III SECT 6 25 a c SECT II 262a ■ BK V SECT 5 269b SECT 12 271 BK VIII SECT 39 288c

- 17 PLOTINUS *First Ennead* TR II CH 6 7 9b 10a

- 18 AUGUSTINE *City of God* BK XIX CH 4 511a 513c CH 20 523d 524a

- 19 AQUINAS *Summa Theologica* PART I Q 113 A 1 REP 2 576a d

- 20 AQUINAS *Summa Theologica* PART I II Q 60 49d 54d Q 64 AA 1 2 66d 68b

- 27 SHAKESPEARE *Macbeth* ACT IV SC III [91 100] 304b c

- 31 SPINOZA *Ethics* PART IV PRO 41 7a 437a 446c

- 36 SWIFT *Gulliver* PART IV 165b 166a

- 42 KANT *Fund Princ Metaphysical Elements of Morals* 256a b / *P of Metaphysical Elements of Ethics* 368b 369a

- 51 TOLSTOY *War and Peace* BK V 200c d

2a(2) Enumeration and description of the intellectual virtues

- 8 ARISTOTLE *Physics* BK VII CH 3 [247<sup>b</sup>1 48 8] 330b d

- 9 ARISTOTLE *Ethics* BK I CH 13 [1103 3] 10<sup>1</sup> 348c ■ BK VI 387a 394d

- 19 AQUINAS *Summa Theologica* PART I Q 14 A 1 REP 2 75d 76c

- 20 AQUINAS *Summa Theologica* PART I II Q 5 A 4 9a 10b Q 57 35a 41a Q 64 A 3 68b-69b

- 23 HOBBS *Leviathan* PART I 66c 71b

- 31 SPINOZA *Ethics* PART IV P OP 25 28 430d 431



## 4 The natural causes or conditions of virtue

4a The natural endowments, temperamental dispositions toward virtue or vice, the seeds or nurseries of virtue

5 EURIPIDES *Hecuba* [582-603] 357d 358a / *Iphigenia at Aulis* [543-572] 429d-430a

6 THUCYDIDES *Peloponnesian War* BK II 396d 397a

7 PLATO *Protagoras* 46d 47b 59a / *Meno* 174a 190a c esp 184b c 190 = / *Republic* bk vii 389d 390b / *Timaeus* 474c d / *Statesman* 607b 608d

9 ARISTOTLE *Ethics* BK II CH I [1103<sup>b</sup> 14-12] 348b d 349a BK VI CH II [1143<sup>b</sup> 13] 393a CH I3 [1144<sup>b</sup> 1145<sup>a</sup> 2] 394b d BK X CH 9 [1179 33 1261] 434a c / *Politics* BK II CH 5 458a 460a esp [1263 38 1266] 458c d BK VII CH I3 [1332 39-110] 537a b CH I5 [1334<sup>b</sup> 8-28] 539b d

14 PLUTARCH *Alcibiades* 156c d / *Coriolanus* 174b d 175a / *Demetrius* 726c

17 PLOTINUS *First Ennead* TR III CH I 3 10a 11a

20 AQUINAS *Summa Theologiae* PART II Q 51 A 1 12b 13c Q 63 A 1 63a 64a A 2 REP 3 64b-65a A 3 ANS and REP 3 65a d Q 94 A 3 223a c

21 DANT *Divine Comedy* LUGATORY VII [112 123] 63d 64a XVII [91 05] 79b c XXX [109-145] 100c d PARADISE VIII [91 148] 117d 118c

22 CICERO *Tale of Wife of Bath* [669i-6788] 274b 276a

23 HOBBS *Leviathan* PART I 86b 96a b

25 MONTAIGNE *Essays* 43a c 200d 204d 264b 265a 307c 308a 337b c 381b c 391c 392a

27 SHAKESPEARE *Hamlet* T I SC IV [23 37] 36a b / *All's Well That Ends Well* ACT I SC I [70-81] 143 ACT III CH I [124 151] 152d 153a

28 HARVEY *On Anatomical Generation* 455d-456a

30 B CON *Advancement of Learning* 69d 70 76d 78d

31 SPINOZA *Ethics* PART V PRO 4 SC OL 453b d

38 ROUSSEAU *On the Quality* 330d 331c 333c d 337d 338c 343 345c 362a d / *Political Economy* 375d 376b

40 GIBSON *Decline and Fall* 192b

42 KANT *Fundamental Principles of Metaphysics of Morals* 263d 264a / *Practical Reason* 303b 304b / *Judgement* 521c 523c

43 MILL *Representative Government* 367d 368a / *Utilitarianism* 459c 460a 469b 470c

44 BO WELLS *John* on 413a II

46 HEGEL *Philosophy of Right* ART III P 150 56c 57a ADDITIONS of 132

49 DARWIN *Descent of Man* 310a d 318a c

52 DOSTOEVSKY *Brothers Karamazov* BK II 19d 20b 38d 40c X II 53b 54b

53 JAI *Psychology* 886b 888a

54 FRUDENBERG *and Dr. Th.* 757d 758a 758d 759a

## 4b The role of teaching in the spheres of moral and intellectual virtue

OLD TESTAMENT *Proverbs* 4 1 4 10-11 57 13 62 3 10 17 13 1 15 5

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5 EURIPIDES *Suppliants* [838-917] 265d 266b / *Hecuba* [582-603] 357d 358a / *Iphigenia at Aulis* [543-572] 429d-430a

5 ARISTOPHANES *Clouds* 488a 506d esp [983 1103] 499b 502a

7 PLATO *Laches* 26a 37d esp 30a II / *Protagoras* 38a 64d esp 43a 47c 64a d / *Euthydemus* 65a 84a = / *Symposium* 169c 170a / *Meno* 174a 190a c esp 183b 190a c / *Gorgias* 2.8b-259c 290b 291a / *Republic* BK II IV 320c 355a BK VII 388a 401d esp 389d 398c / *Timaeus* 474c d / *Sophist* 556c 558d / *Statesman* 605d 608d / *Laws* BK I 649b d BK II 657c 658b BK V 688c-689c BK VII 796b 799a / *Seventh Letter* 801c 802d 803c 810d esp 810c d

9 ARISTOTLE *Ethics* BK I CH 4 [1095<sup>b</sup> 4 13] 340c d CH 9 345 c BK II CH I [1103 14 1] 348b CH 4 350d 351b BK X CH 9 [1179<sup>b</sup> 33] [1180<sup>b</sup> 24] 434a 435c / *Politics* BK II CH 7 [1266<sup>b</sup> 27 36] 462b c BK IV CH II [1295<sup>b</sup> 14 18] 495d K VII CH I3 [1332 39-110] 537a b CH I5 [1334<sup>b</sup> 8 28] 539b d BK VIII 542a 548a c esp CH 2 542b d

12 EPICETUS *Discourses* BK I CH 4 108d 110a BK III CH I 175a 177c

14 PLUTARCH *Pericles* 121a 122b / *Alcibiades* 156c 158b / *Coriolanus* 174d 175a / *Timoleon* 195a b / *Cato the Younger* 623a b / *Demetrius* 726a d / *Dion* 782c 788b

17 PLOTINUS *First Ennead* TR III CH 2 10d

18 AUGUSTINE *Christian Doctrine* BK IV CH 27 30 69c 697d

20 AQUINAS *Summa Theologiae* PART II Q 95 A 1 ANS 226c 227c A 3 228c 229b

23 HOBBS *Leviathan* PA T I 66c d 68b

25 MONTAIGNE *Essays* 43a c 55d 62a esp 60c 61c 69d 72b 321a = 391c 788b

30 B CON *Advancement of Learning* 69d 70a

31 SPINOZA *Ethics* PART IV APPENDIX IX 448a

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38 ROUSSEAU *On the Quality* 326c d 345b c / *Political Economy* 373 374 375d 376b

40 GIBSON *Decline and Fall* 34d 338d 339a 435b d

42 KANT *Fundamental Principles of Metaphysics of Morals* 260d 261d 263a = 264b [In t] 278a b / *Practical Reason* 327 d 356c 360d / *Philosophical Elements of Ethics* 365b d 377a / *Int. Metaphysics of Morals* 387d 388 / *Judgement* 513d 514b

43 MILL *Utilitarianism* 456a = 457c-451c part

44 BOSWELL *Johnson* 413 II

- 40 H GEL *Philosophy of Right* PART III par 187  
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49 D RWIV *Descent of Man* 593a  
51 TOLSTOY *War and Peace* BK I 47b-48d BK  
VI 244d 245d  
52 DO TOEVSKY *Brothers Karamazov* BK IV  
83 88a passim EPILOGUE 411b-412d  
53 JAMES *Psychology* 274b 275a  
54 FREUD *Sexu l Enlightenment f Children*  
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592b-c / *New l product ry Lectures* 870a-c

- 49 D RWIV *Descent of Man* 305a 311c d  
313d 314a 318a 322a  
51 TOLSTOY II = and *Peace* BK I 47b 48d BK  
VI 369c d  
53 JAMES *Psychol g* 78b 83b esp 81b 83b  
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4d The role of the family and the state in the  
de velopment of moral virt e

4d(1) The infl ence of parental authority on  
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4c TRAINING OF PRACT CE AS CAUSE OF VIRTUE OR  
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- OLD TESTAM NT *Pr erbs* 2 6 / *Jeremiah* 13  
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5 EUR ID *Suppliants* [838-917] 265d 266b  
/ *Electra* [367-395] 330c d / *Iphigenia at Aul s*  
[543-572] 429d-430a  
7 PLATO *Meno* 1 4a 190a c esp 174a 190a /  
*Republic* BK I 329c 331 BK VII 389d  
390b 391c d / *Timaeus* 474d-475d / *Th ete  
tus* 518b / *La us* BK I 649b d BK II 653a-c  
657e 658b  
8 A ISOTOLZ *C legor* CH 0 [13 16-3] 18d  
9 ARISTOTLE *Ethics* BK I CH 4 [ 9<sup>b</sup> 4-13]  
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25 33] 403b BK IV CH 9 [17 4 2] 423d  
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12 E I TERTUL D OUR BK I CH 2 106d 108b  
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12 AUREL L *M d tation* K V SECT 6 271 d  
20 AQUIN A *Summa Theologiae* PAR II Q 5  
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23 HO BE *Levathan* PART I 66 d  
25 MONTAIGNE *Essays* 43a = 176c 177a 200d  
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27 SHAKE ARE *Harriet ACT 2 SC IV* [140  
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29 CERVANTES *Don Quixote* PART I 332  
30 BA ON *Ad amment f Le rang* 69d 70a  
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31 LOCKE *Hum n Understand g* BK II CH  
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42 KANT *Practical Rea n* 327a d / *P f f M ta  
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43 M L *Liberty* 294d 295 / *Utilit a ism*  
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46 HEC L *Phil phy f Right* PART par  
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19 III 22 12 23 13 24 34 29 15 17  
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3 21 / *I Thessalonians* 11 / *Hebrews* 12-7-9  
5 EL IPIDES *Suppliants* [838-917] 265d 266b  
7 PLATO *Lache* 26a 30c / *Protagoras* 45d-47a  
/ *Meno* 186a 187b / *Republic* BK V 366a-c /  
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9 A TOTLE *Eth s* BK X CH 9 [1180 14<sup>b</sup> 12]  
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passim esp [1 60<sup>b</sup> 19] 455c BK IV CH II  
[1295<sup>a</sup> 14 18] 495d BK VII CH 17 [1316<sup>a</sup> 23<sup>b</sup> 3]  
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12 AUREL L *Meditati ns* BK I 253 256d esp  
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13 VIRGIL *Aen id* K V [701 748] 205b-206b  
14 PLUTAR H *Marcus Cato* 286c 287b  
18 AUGUSTINE *Confe sions* BK I par 14 15 4c  
5 K II par 1-8 9b 10d BK III par 19-20  
18b 19a BK IV par 19-22 67a d  
20 AQUINAS *Summa Theologiae* PART II Q 95  
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22 CHAUCER *Physicums Tale* [12 006-036] 367b  
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25 MONTAIGNE *Essays* 16c d 43a-c 63d 64d  
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29 CERVANTES *Don Quixote* PART II 251b  
31 S INO A *Eth s* PART III PRO 55 CHOL  
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35 LOCKE *C l Government* CH VI CT 55-69  
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- 52 DOSTOEVSKY *Others Karamazov* BK XII 369a 373c passim 395a 398d passim  
54 FREUD *Origin and Development of Psychoanalysis* 17d 18a / *Narcissism* 408b / *Ego and Id* 704d 707d / *Catharsis and Its Discontents* 794c 795a esp 795b [fn 2] / *New Introductory Lectures* 834b c 844b c 876c

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- 5 AESCHYLUS *Eumenides* [490–565] 86b 87a [681 710] 88b c  
5 SOPHOCLES *Antigone* [1348 1353] 142d  
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6 THUCYDIDES *Peloponnesian War* BK II 399a 400d–401a

- 7 PLATO *Protagoras* 45b d / *Gorgias* 283b 285a / *Republic* BK II 313b d BK IX 426d 427a / *Laos* 2 1 643d BK V 688c 689a BK IX 745a 746a BK X 760d 761b

- 9 ARISTOTLE *Ethics* BK II CH 3 [1103<sup>b</sup> 14 18] 350a BK III CH 5 [1113<sup>b</sup> 21 1114 2] 359d 360a BK X CH 9 [1179<sup>b</sup> 1180<sup>a</sup> 24] 434b 435a

- 14 PLUTARCH *Lycurgus* 41a 42b 45c / *Lycander* 354d

- 15 TACITUS *Annals* BK III 57d 58b

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- 20 AQUINAS *Summa Theologiae* PART II Q 87 A 2 R 1 186c 187b Q 92 A 2 REP 4 214d 215 Q 95 A 1 226c 227c

- 22 CHAUCER *Tale of Melbeus* 401a–432 esp par 62–68 427b 429a

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- 30 B CON *Advancement of Learning* 69d 70a 79b c

- 31 SPINOZA *Ethics* PART III DEF 27 EXPL 419a b  
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- 49 DARWIN *Descent of Man* 305a 310c d 322a c 592d 593b

- 51 TOLSTOY *War and Peace* EPILOGUE 1 655c 656b

- 52 DOSTOEVSKY *Others Karamazov* BK II 28d 32a EPILOGUE 411b–412d

- 53 JAMES *Psychology* 203a 204b  
54 FREUD *Id and Ego* 757c 758c 759b / *Civilization and Its Discontents* 792b–795b / *New Introductory Lectures* 876c d

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- 6 THUCYDIDES *Peloponnesian War* BK II 396c d BK IV 478d 479b

- 7 PLATO *Protagoras* 45b 47c / *Gorgias* 271b–272b / *Republic* BK II 314b ■ BK II V 320c 355 BK VI 377a 379c / *Statesman* 607b 608d / *Laos* BK I 642d 648c 650a b

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- 9 ARISTOTLE *Ethics* BK II CH 1 [1103<sup>b</sup> 3–6] 349a K V CH 1 [1120<sup>b</sup> 12 24] 377a CH 2 [113 7 29] 378a b / *Politics* BK II CH 5 458a–460 passim esp [1263 38 26] 458c d

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 49 DARWIN *Descent of Man* 310c d 312a 313a 593a II  
 51 TOLSTOY *War and Peace* BK VI 248b 250a  
 III JAMES *Psychology* 14b 15a 202b 886b 888a

5c *Intent on and choice as conditions of virtue the role of will*

- APOCRYPHA *Ecclesiasticus* 15 II 20—(D) OT *Ecclesiastes* 15 II 21  
 9 ARISTOTLE *Ethics* BK I CH 13 [1102<sup>b</sup>13-1103<sup>a</sup>4] 348a BK II CH 6 351c 352d esp [1106<sup>b</sup>36-1107<sup>a</sup>9] 352c BK III CH 1-5 355b d 361 CH 12 [1119 21-34] 365d 366 BK VI CH 2 387a 388b BK VII CH 7 10 400d 403c BK VIII CH 13 [1163<sup>a</sup>21 24] 415d BK IX CH 8 [1168<sup>a</sup>28 1169 1] 421d 422d BK X CH 8 [1178 34 48] 433a b / *Politics* BK VII CH 13 [1132 28 32] 537a  
 12 EPICTETUS *Discourses* BK I CH 22 127c 128c  
 18 AUGUSTINE *City of God* XXIV CH 5-6 379c 380c CH 13 387c 388c  
 20 AQUINAS *Summa Theologica* PART I II Q 50 A 5 10b d Q 55 A 1 REP 2 26b 27a Q 56 A 6 34b 35a Q 60 A 2 3 50d 52b  
 21 DANTÉ *Divine Comedy* PURGATORY XVIII [40-75] 80b XXVIII [124 142] 95d 96a  
 23 HOBBS *Leviathan* PART IV 272c  
 24 RALPH LAIS *Grangeria and Patruel* BK I 65c 66b  
 25 MONTAIGNE *Essays* 13d 14c  
 32 MILTON *Paradise Lost* BK III [80 134] 137a 138a  
 35 LOCK *Human Understanding* BK II CH XXI SECT 51-54 191b-192c  
 38 ROUSSEAU *On Liberty* 337d 338a  
 42 KANT *Fund Prin Metaphysic of Morals* 256a B 259 b / *Practical Reason* 291b d [in I] 304a d 309d / *Pf Metaphysical Elements of Ethics* 378a b  
 43 MILL *Liberty* 295a 297b / *Utilitarianism* 463 464d  
 46 H GEL *Philosophy of Right* ADDITIONS 57 126d / *Philosophy of History* INTRO 165c 166b  
 51 TOLSTOY *War and Peace* BK VI 248b-250a  
 52 DOSTOEVSKY *Others* *Karamazov* BK II 20a-c X 129d 132b  
 53 JAMES *Psychology* 186b 187a 271b-275a passim esp 272b-273a 274a 275a 806a 808a 814b 819a passim esp 818a b 825a 827a

6 *Virtue in relation to other moral goods principles*

6a *Duty and virtue*

- II AURELIUS *Meditations* BK VI SECT 1 27 BK VIII SECT 32 287d 288a  
 14 PLUTARCH *Pericles* 121a 122b  
 18 ALCASTINE *City of God* BK XIX CH 19 523b  
 21 DANTE *Divine Comedy* PURGATORY XVII [8 XVIII] 751 79b 80c XXX XXXI 99b 102b passim  
 25 MONTAIGNE *Essays* 300c 307a esp 303a-c  
 30 BACON *Advancement of Learning* 74b-c  
 38 ROUSSEAU *Political Economy* 369b 371b 372b 373b / *Social Contract* BK I 393b c  
 42 KANT *Fund Prin Metaphysic of Morals* 256d 259a 262a 263c 267b d 269b [in I] *Practical Reason* 305d 307d 325a 329a 325c 327d 329a / *Pf Metaphysical Elements of Ethics* 366d 368d 373b d / *Intro Metaphysic of Morals* 383a 390a c esp 383a 388a 389a 390a  
 43 MILL *Liberty* 290c 291a / *Utilitarianism* 453c-454a 457c 461c passim 464d-476 passim  
 46 HEGEL *Philosophy of Right* PART II par 47b d PART III par 150 56c 57a ADDITION 129c / *Philosophy of History* INTRO 166b  
 49 DARWIN *Descent of Man* 304a 310d 311 592c 593b passim

6b *The relation of virtue to pleasure*

- 7 PLATO *Protagoras* 59a 62c / *Gorgias* 271 283a / *Republic* BK II 313d BK IX 421a-421c / *Lysis* BK I 649d 650b BK II 656d 658a BK III 669b d BK V 689c 690c / *Seventh Letter* 801b e 806a  
 8 ARISTOTLE *Topics* BK I CH 5 [102<sup>b</sup>14 145c BK I CH 3 [118<sup>a</sup>27 35] 165d 166a *Physics* BK VII CH 3 [246<sup>b</sup>20-247<sup>a</sup>19] 330a 333d BK IV CH 8 375a d BK VII 395a-406 passim esp CH II 14 403c-406a c BK IX 9 423a 424b BK X CH 1-5 425a-430d passim / *Politics* BK II CH 7 [1265<sup>a</sup>27 126<sup>b</sup>46] 462b d BK VII CH I 527a d  
 12 EPICTETUS *Discourses* BK II CH II 151a CH 19 163b  
 13 AURELIUS *Meditations* BK II SECT 10 251 258a BK III SECT 6 261a c BK VI SECT 275b d BK III SECT 10 286b E I 19 284 287a SECT 28 287c SECT 39 288c BK S CT I 291a c  
 18 AUGUSTINE *Confessions* BK VIII par 10 55c 56b BK X par 41-53 81c 85a  
 19 AQUINAS *Summa Theologiae* PART II Q 1 A 6 762d 763c Q 34 A 1 768c 769d A 4 772b  
 20 AQUINAS *Summa Theologiae* PART II Q 1 A 4 AN 52b 53a A 5 ANS 53a 54d

- 21 DANTE *Divine Comedy* PURGATORY XXX  
xxx 99b-102b
- 24 RABELAIS *Gargantua and Pantagruel* BK I  
65c 66b
- 25 MONTAIGNE *Essays* 28a d 162c 167a 200d  
205b 392a b 408a ■ 540b-d
- 30 BACON *Advancement of Learning* 71d 72b
- 31 S. OZA *Ethics* PART IV PROP 18 424c-429d
- 33 PAS. I *Pensees* 412 413 242a 4 3 243b
- 35 LOCKE *Human Understanding* BK II CH XXV  
SECT 33 186b-d s. CT 71 197b-198a
- 40 GIBBON *Decline and Fall* 192b
- 42 KANT *Fund. Prin. Metaphysic of Morals*  
256c 257c / *Pract. cal Reason* 298a 300a 304a  
307d 338c 355d passim / *Pref. Metaphysic*  
*Elements of Ethics* 365b 366d / *Intro. Meta-*  
*physic of Morals* 387b 388a / *Judgement* 478a  
479d
- 43 M. U. *Utilitarianism* 447b-450b 463a-464d
- 44 BOSWELL *Johnson* 116b 393a b
- 49 D. W. N. *D. scent of Ma* 316b 317a
- 51 TOLSTOY *War and Peace* BK V 198b

# The relation of virtue to wealth

- OLD TESTAMENT *Eod s.* 20 15 17 23 368 /  
*Leviticus* 19 9-11 13 35-36 25 / *Deuteronomy*  
5 9 21 15 7 15 17 16-17 22 1-3 24 0-2  
26 12 13 / *Nehemiah* 5- (D) *II Esd* as 5 /  
1 b 29 12 17 31 16-23 / *Proverbs* 1 10-19  
32 28 11 1 24 28 15 1f 27 16 8 723  
19 17 22 20 10 6-7 3 6 22 9 16 2 23  
23 4-5 28 27 29 7 30 8-9 / *Ecclesiastes* 5 10-  
20- (D) *Ecclenastes* 5 9-19 / *Is* 1 h 1 3  
33 15 17 58 3 12- (D) *Ia as* 10 1 3 33 15-  
17 58 3-12 / *Jeremiah* 6 3 8 10 17 11  
2 3 17- (D) *Jeremia* 6 2 3 8 10 17 11  
22 13-17 / *Ezechiel* 1 22 12 16 4-3 - (D) *Eze-*  
*chiel* 1 22 16 24-31 / *Am* 2 6-8
- APOC. PHA. *Tobit* 1 passim 4 -19 passim  
12 8- (D) OT *T b* 1 passim 4 1 20  
passim 8 / *Ezechiel* 7 10 8 2  
2 6 14 13 26 29- (D) OT *Ecclesiasticus*  
7 10 8 2 3 1 17 14 13 26 28
- N. W. TESTAMENT *Matthae* 5 40 4 6 1-4 19-  
21 24 34 19 6-3 / *Luk* 12 13 34 / *Acts*  
20 33 34 / *II Corinths* 1 8-9 / *I Timothy*  
6 6-11 / 9 / *H breus* 13 5 / *James* 5 1-6
- 5 AE. HYLIS *Persians* [165 17] 17a / *Ag-*  
*memnon* [355-389] 55d 56b [750-781] 60a b
- 5 S. PROCL. *At gone* [280 303] 133 d
- EURIP. ■ *Helen* [9 3-9 8] 306d 307a / *Elee-*  
*tra* [367 395] 330c d [938-944] 335c / *Ph* ;  
■ *Maudens* [5 8-567] 382 -d
- A. I. T. PH. NES. *Plut* s. 629a 642d esp [4 5  
8] 633d-636d
- 6 H. ODORUS *Histoty* BK I I 121b-c K V  
169d 170 BK V 201d 202c K X 288b  
297b-d
- 6 THUCY. ID. ■ *Plop* ■ *War* K I 379 d
- 7 PLATO *Meno* 175b 178d esp 178c d / *Repub*  
li K 296c 297b 304 K I 312b-313  
BK III IV 341 343b ■ VI I 405c 408a K

- 436c-437c / *Critas* 485b d / *Laus* BK II  
656d 658b BK V 694a 695a BK VIII 733b  
734a BK IX 751c d
- 9 ARISTOTLE *Ethics* BK II CH 7 [1107b-9-1]  
353a b BK IV CH I 366b d 370b BK X  
CH 8 432d-434a passim / *Politics* BK II CH 5  
458a-460a passim esp [1263 38-<sup>b</sup> 6] 458c d  
CH 7 [1 66<sup>b</sup> 1267<sup>a</sup> 17] 462b d CH II  
[1273<sup>a</sup> 22-<sup>b</sup> 8] 469d-470 BK VII CH I 527a d  
CH 8 [328<sup>a</sup> 21<sup>b</sup> 4] 532c d CH 13 [331<sup>b</sup> 29-  
1332 32] 536b-537a / *Rhetoric* K II CH 16  
638b ■
- 12 EPICTETUS *Discourses* BK II CH 19 163b  
BK IV CH ■ 230b 232
- AURELIUS *Medi al* ■ s. BK VII SECT 33 288a
- 14 PLUTARCH *Pericles* 130b ■ / *Anst des Marcus*  
*Cato* 291b 292b / *Lysander* 361a d
- 15 TACITUS *Annals* BK III 58a
- 18 AUGUSTINE *Confessions* BK VI PAR 16 40a-c
- 20 AQUIN. S. *Summa Theologica* PART I Q 60  
A 5 ANS 53a 54d Q 65 A 1 REP 1 70b 72a  
Q 84 A 1 174b 175a PART II II Q 186 A 3  
REP 4 652d 655b
- 21 DANTE *Divine Comedy* HELL, VII [25-96] 9d  
10c XIX [1 123] 26d 28a PURGATORY XIX  
[70]-XX [123] 82b 84c
- 22 CH. UC. R. *Tale of W. life of Bath* [6691-6788]  
274b-276a / *Tale of Mel beus* par 49-52 422a  
425b par 77 430b-431a
- 24 RABELAIS *Gargantua and Pantagruel* BK III  
133b 135b
- 25 MONTAIGNE *Essays* 109d 110c : 126b-131a  
passim
- 27 SHAKESPEARE *All's Well Th t E ds Well*  
A T I SC III [123 153] 152d 153a / *Tim f*  
*Athen* 393a-420d esp ACT IV SC III [24 47]  
410d 411a [382 462] 415a d
- 29 CERVANT. S. *Don Quixote* PART II 221d  
222c 338b
- 30 BACON *Adv cement f Learn g* 7d 8b  
77d 78a 86b ■ 92a b
- 33 PASCAL *Provincial Letters* 91a ■
- 37 FIELD. NG. *Tom Jo* s. 178b d 283d 284a
- 38 MONTESQUIEU *Spirit of Laws* BK V 19a d  
BK VII 44d 45c K XX 146b d
- 38 ROUSSEAU *I qualit* 327 328 360b 361a  
/ *P lical Ec om* 375b d / *Soci l Co tract*  
BK I 411a b
- 39 SMITH *W lth f N t* s. BK IV 265d 266b
- 40 G. ON *Decl c and F II* 22
- 42 KANT *F nd Prin Metaphysic of Morals*  
256 b / *P act al Reason* 330d 331a / *P ef*  
*Metaphysical Elements of Eth cs* 370b d
- 43 MILL *Repr t ruc Government* 335b c /  
*Utilitarianism* 463a b
- 44 BOSWELL *John* 102d 103a 413c d 491b  
492b c 493 494b
- 46 H. EL. *Philosophy f Right* ART PA 1  
76d 77a
- 50 MARY *Capital* 61d 77 78b
- 51 TOLSTOY *War and Peace* BK I 50b BK V  
194d 197b-c

(6 *Virtue in relation to other moral goods or principles*)

6d' Virtue and honor

- OLD TESTAMENT *Proverbs* 10-7 14 34 / *Isaiah* 14 20—(D) *Isaiah* 14 20  
 APOCRYPHA *Wisdom of Solomon* 3 6-17 4—  
 (D) OT *Book of Wisdom* 3 16-17 4 / *Ecclesiasticus* 10 19-31 44 15 46 11 12—(D)  
 OT *Ecclesiasticus* 10 23 34 44 15 46 13-15  
 NEW TESTAMENT *Romans* 2 10  
 4 HOMER *Iliad* 3a 179d esp bk 1 3a 9a c k  
 iv [401-418] 28a bk v [520 532] 35c bk ix  
 57a 64a  
 5 SOPHOCLES *Ajax* 143a 155a c esp [393 480]  
 146c 147b / *Electra* [1058 1097] 164d 165a /  
*Philoctetes* [1408 1444] 194d 195a c  
 5 EURIPIDES *Hippolytus* [373 430] 228b d /  
*Heracleidae* [297 332] 251a / *Andromache*  
 [319-332] 318a [693 701] 321a [768-801]  
 321d 322a / *Iphigenia at Aulis* [543-572] 429d  
 430a  
 6 THUCYDIDES *Peloponnesian War* bk ii 397d  
 398c  
 7 PLATO *Symposium* 152b 153b / *Meno*  
 178c d / *Republic* bk i 310c 315c bk ii  
 403a 405c / *Lysis* bk ii 673d 674c  
 9 ARISTOTLE *Ethics* bk i ch 5 [1105<sup>b</sup> 29-  
 1106 9] 351b c ch 7 [1107<sup>b</sup> 22 1108 3] 353b c  
 bk i ch 7 [1115<sup>b</sup> 10-13] 361d bk iv ch 3-4  
 370b 372d k ix ch 8 421d 423a / *Poetics*  
 bk ii ch 7 [1266<sup>b</sup> 36-1267<sup>a</sup>] 462c bk vii ch i  
 527 d / *Rhetoric* bk i ch 9 608c 611c  
 12 AURELIUS *Meditationes* bk ii sect ii 258a  
 bk vi sect 16 275b d sect 51 279b c bk  
 ix s ct 30 294b c  
 14 PLUTARCH *Alexander* 265c d / *Lysander*  
 354d / *Catulus Younger* 637b c / *Agamemnon*  
 648b d 649a  
 15 TACITUS *Annales* bk iii 58a bk xv 162d 163a  
 18 AUGUSTINE *Confessions* bk x par 59 64 86b  
 87d / *City of God* bk v ch 12 20 216d 226a  
 19 AQUINAS *Summa Theologiae* PART I Q 2 A  
 2 616d 617b  
 20 AQUINAS *Summa Theologiae* PART II Q 25  
 A 1 REP 2 501b 502a ART III Q 25 1  
 839d 840d PART II SUPPL. Q 96 A 7 RE 3  
 1061b 1062a  
 21 DANTE *Divine Comedy* ELL. IV [67 147] 6a  
 7 URGATORY XI [73 82] 69c 70a P RA  
 D BK VI [112 126] 114d 115a  
 22 CHaucER *Prologue* [43 8] 159b 160a /  
*Knight's Tale* 174a 211a / *Franklin's Tale*  
 [11 667 844] 361b 364b / *Physician's Tale*  
 366a 371a esp [1 137 191] 369b 370b  
 23 HOBBS *Leviathan* PART 74c 75b  
 24 RALPH LAIS *Gargantua and Pantagruel* bk i  
 65c d  
 25 MONTAIGNE *Essays* 103 105c 112 d 126b  
 127c 181d 183c 300c 307 390a 391c 462b c  
 495d 496d

- 26 SHAKESPEARE *Richard II* ACT I SC I [165  
 195] 322b c / *1st Henry IV* ACT I SC II [2 8  
 240] 437c d SC III [160-208] 439b d / *Julius*  
*Caesar* ACT V SC V [68-75] 596a c  
 27 SHAKESPEARE *Hamlet* ACT IV SC IV [39-66  
 59b c / *All's Well That Ends Well* ACT II SC  
 III [124 153] 152d 153a  
 29 CERVANTES *Don Quixote* esp PART II  
 222c d 227d 228d  
 30 BACON *Advancement of Learning* 92a  
 33 PASCAL *Pensées* 404 241a  
 35 LOCKE *Human Understanding* d 90a d BK I  
 CH XXVIII SECT 10-12 230b 231c  
 38 MONTESQUIEU *Spirit of Laws* bk iii 11a d  
 bk iv 13b d 15a  
 38 ROUSSEAU *Inequality* 360b-361a 362a d /  
*Social Contract* bk iv 434b 435a  
 39 SMITH *Wealth of Nations* bk v 346c 347c  
 354c d  
 42 HANT *Fund. Prin. Metaphysic of Morals*  
 256a b 258b c  
 43 FEDERALIST NUMBER 57 177b NUMBER 73  
 217a b  
 43 MILL *Liberty* 303d 304c  
 44 BOWSWELL *Johnson* 124d 125d 310d 311a  
 412b d  
 49 DARWIN *Descent of Man* 317 d passim  
 327b c 392d 593a  
 51 TOLSTOY *War and Peace* bk xv 619c 621b  
 EPILOGUE I 647b 649b  
 52 DOSTOEVSKY *Brothers Karamazov* bk vi  
 153d 157b

6e Virtue in relation to friendship and love

- 5 EURIPIDES *Iphigenia at Aulis* [334 414] 417d  
 478c  
 6 HODOTUS *History* bk vii 258d  
 6 THUCYDIDES *Peloponnesian War* bk iii 419a  
 7 PLATO *Phaedrus* 1 8d 129a / *Symposium*  
 152b 155c / *Republic* bk i 299b c / *Seventh*  
*Letter* 804c  
 8 ARISTOTLE *Topics* bk iii ch i [16 31 39]  
 162d  
 9 ARISTOTLE *Ethics* bk viii ix 406<sup>b</sup> d-426a c /  
*Poetics* bk ii ch 5 [1 63 38 426] 458c d /  
*Rhetoric* bk ii ch 4 [381 12 438] 625d 627d  
 11 EPICTETUS *Discourses* bk i ch 22 167d  
 170a passim bk iv ch 2 223d 224b  
 12 AURELIUS *Meditations* bk xi sect 9 303b  
 sect 13 303d  
 14 P UTARCH *Alcibiades* 156c 158b / *Peloponnesian*  
 233b d / *Catulus Younger* 623a  
 15 TACITUS *Historiae* bk i 208b c  
 18 AUGUSTINE *Christian Doctrine* bk i ch 2, 30  
 631d 633b  
 20 AQUINAS *Summa Theologiae* PART II Q 23  
 AA 3-8 485a-489c Q 31 A 1 REP 3 536d  
 537c  
 21 D N E *Divine Comedy* HELL XI 15a 16b  
 URGATORY XVII [82]-XVIII [75] 79b 80c  
 22 CHaucER *Troilus and Criseida* bk ii STANZA  
 122 123 37b k iii STANZA 254 258 87b

88a / *Franklin's Tale* 351b-366a esp [11 830-928] 364b 366

23 MACHIAVELLI *Prince* CH XVII 24b

25 MONTAIGNE *Essays* 82b 88d 390a b

27 SHAKESPEARE *Hamlet* ACT III SC II [57 79] 49c d

31 SIOUXA *Ethic* PART IV PROP 71 446a b

36 SWIFT *Gulliver* PART V 165b 166a

38 MONTESQUIEU *Spirits of Laws* K V 18d 19d

38 RUSSELL *Political Economy* 373c 374a

41 MILL *Utilitarianism* 454a-455a 474b c

49 DERRIDA *Descent of Man* 310c d 592d

52 DOS ETOVSKY *Brothers Karamazov* BK II 40b c

## 7 The role of virtue in political theory

### 7a The cultivation of virtue as an end of government and the state

6 THUCYDIDES *Platonian War* BK II 395d 399

7 PLATO *Polity* 46b-d / *Republic* 282d 283a / *Republic* BK I 310-401d / *Statesman* 605d 608d / *Laws* BK 640d 652d BK I 669b 670b BK X 794a 799a / *Seventh Letter* 806b c

9 ARISTOTLE *Ethics* BK I CH 9 [1099<sup>b</sup> 5-32] 345b CH 13 [102<sup>b</sup> 5] 347b BK II CH I [103<sup>b</sup> 3-6] 349a BK CH I 29<sup>b</sup> 12 24] 377 c [30<sup>b</sup> 7 29] 378a b BK CH I 1179 33-18<sup>b</sup> 27] 434a-435c / *Politics* BK I CH 2 [123<sup>b</sup> 1 39] 446b-d CH 13 [126<sup>b</sup> 8 19] 455c BK I CH 7 [166<sup>b</sup> 1-267 17] 462b d CH 9 [69<sup>b</sup> 13 1 70 14] 465d-466b K I CH 9 477 478d BK II CH 1-3 527a 530a CH 8 [328<sup>b</sup> 4] 532c d CH 13-5 536b 539d

13 VIRIL *And* BK VI [847-853] 233b 234 BK VII [8 9-84] 376a b

14 PLUTARCH *Lycus* 32a 48d sp 36a 48b / *Lycus* *Numa* 61b d 64 c / *Solon* 64b d 77a c / *Lysander* 361a d

15 TACITUS *Annals* K 57b 58d

16 AQUINAS *Summa Theologiae* ART I II Q 92 A 1 213c 214c

21 DANT *Divine Comedy* PURGATORY X I [114] 77b 78a PARADISE XX II [148] 148d

25 MONTAIGNE *Essays* 60c 61c 306 d

29 CE VAN *De Principiis* ART 353a

30 BERNARD *Advancement of Learning* 54 b

31 SIOUXA *Ethics* RT V PRO 37 OL 2 435b 436 PRO 3 446-447a

35 LOU *Teller* 15d / *Clarendon* CH X 1 28 54b / *Hum* *Understand* g K I 1 105a

36 MONTAIGNE *Spit of Laus* K III 9b 11d BK V 15c 17b K V 18b d 19d 21d 25a BK X 119d

38 ROUSSEAU *Political Economy* 372 377b / *Social Contract* K 393b-c K 411 K IV 434b 435a

40 GORDON *Defence of the* 100 101b

41 GIBSON *Decline and Fall* 54d 55a

43 CONSTITUTION OF THE US AMENDMENTS XVII 19c XXI 20b

43 MILL *Representative Government* 334a e 336c 338d 346c 350a / *Utilitarianism* 464d 476a passim esp 467b 468a 474d-476a

44 BOSWELL *Johnson* 178b c

46 HEGEL *Philosophy of Right* PART III pa 241 76d 77a par 257 80b par 273 91b-d ADDITIONS 183 148d 149a / *Philosophy of History* ART IV 365d 366

51 TOLSTOY *War and Peace* BK VI 244d 245d

### 7b Civic virtue: the virtue of the good citizen compared with the virtue of the good man

OLD TESTAMENT *Exodus* 22:28 / *Proverbs* 16 13 20 23 13 24 2 25 6-7 / *Ecclesiastes* 8 2 3 10 20

APOCRYPHA *Ecclesiasticus* 41 17 18-(D) OT *Ecclesiasticus* 41 21 23

NEW TESTAMENT *Matthew* 22 16-22 / *Mark* 1 14 17 / *Luke* 20 22-25 / *Acts* 23 7 / *Romans* 13 1-7 / *Titus* 3 1 / *1 Peter* 2 13-21

50 SOCRATES *Apology* 131a 142d esp [633 763] 136c 137d

5 ARISTOPHANES *Knights* 470a-487a p [1316-408] 486a 487a c

6 HERODOTUS *History* BK V 175b BK VI 233a d 258d

6 THUCYDIDES *Platonian War* K I 370a-c K I 397d 398c 402d-404a BK III 425 427c passim K VI 511c d

7 PLATO *Protagoras* 43b 47 / *Meno* 174d 176 sp 175d 176a / *Polity* 200a 212a c / *Critias* 213a 219 c / *Republic* BK I 300b 306b BK IV 346 355a / *Statesman* 605d 608d / *Laws* K I 669b 670c 672d 674d K V 686d 691b K VI 706b BK VIII 740d 741a / *Seventh Letter* 805d 806a 806d

9 ARISTOTLE *Ethics* K I CH 9 [99<sup>b</sup> 29-3] 345b K II CH 8 [116 15<sup>b</sup> 3] 362b d BK V CH I 19<sup>b</sup> 12 3 13] 377a c CH - [130<sup>b</sup> 29] 378a b K VI 8 [141<sup>b</sup> 23-114] 390d 391 BK V CH 9 434 436a c / *Politics* BK I CH 13 [250<sup>b</sup> 33 1 6 40] 454b d BK II CH I 73<sup>a</sup> 8] 469d-470a K I CH 4 5 473 475d CH 9 [1280<sup>b</sup> 3 11] 478a b CH 13 [83<sup>b</sup> 44 1 84 3] 482 BK I 15 [86<sup>a</sup> 22 5] 484c d CH 8 487 BK IV CH 7 [93<sup>b</sup> 7] 493a b K V CH [3 4 4 6] 528b c K 3 529b 530a CH 7 531d 532 CH 9 [3 8<sup>b</sup> 33 13 9<sup>a</sup>] 533b CH 3 15 536b-539d BK II CH I [1337 1 18] 542a

12 EPICURUS *Discourses* K III CH 10 148c 150a K III CH 17 182b 184a

12 AURELIUS *Meditations* K I CH 1 256b d K II CH 4-5 260b 261 BK IV CH 4 264a CH 9 266 K V CH 16 271c d CH 272b K V CH 274 274d 275 K V CH 280a b CH 281 280c ST 66 284b-c BK CH 3 293c K X SE 16

- (7) *The role of virtue in political theory* 7b *Cicero*  
*virtue the virtue of the good citizen compared with the virtue of the good man*  
 297a b BK XI SECT 8 303a b SECT 21 305d 306a
- 14 P LUTARCH *Lycurgus* 45b 48b c / *Coleman*  
 174b d 175a / *Aristides* 263d / *Lysander*  
 361a d / *Agelais* 480b d 481a / *Cleomenes*  
 659d 660a / *Demosthenes* 699 700a
- 15 TACITUS *Historiae* BK I 191c d BK IV 267c d
- 17 PLOTINUS *First Ennead* TR II 6b 10a
- 18 AUGUSTINE *City of God* BK II CH 21 161b 162d BK V CH 12-13 216d 220a BK VI CH 17 522b 523 CH 21 524a 525a CH 24 26 528b 529a
- 20 AQUINAS *Summa Theologica* P RT II Q 6 A 5 58b 59d Q 92 A 1 R P 3 213 214c
- 21 DANTE *Divine Comedy* HELL VI [58-73] 9 VI [1-66] 15a d XV [55-78] 21d XVI [64 78] 23a b XXXII [1, 2] XXXIII [90] 48 50c passim PURGATORY VI [58 151] 61b 62c XVII [91 123] 79b d PARADISE XV [97]-XVI [154] 129b 132a
- 23 HOBBS *Leviathan* PART II 154b 155c CONCLUSION 279a c
- 25 MONTAIGNE *Essays* 48a b 381a 388c esp 381 d 390c 391c 480b 482b 486b 489b 490c 491d
- 26 SHAKESPEARE *Julius Caesar* ACT V SC V [68-8] 596a c
- 30 BACON *Advancement of Learning* 74b c 81d 82a 94b 95b
- 31 DESCARTES *Discourse* PART III 48b 49a
- 31 S NOZAR *Ethics* PART PRO 73 446c 447a
- 33 PASCAL *Pensées* 6 173a
- 35 LOCKE *Tolerance* 15d / *Human Understanding* BK I CH II SECT 5-6 105
- 38 MONTAIGNE *Spit of Laus* XXXII d BK 9b 12a A IV 13b d 15a 15c 17b BK V 18d 19d 21b 23 31b c A VII 44d 45 K III 51a 53 55c d
- 38 ROUSSEAU *Quality* B 3a 328 360b d [fn] 366b d / *Politics* At Eco m 369b 370a 372a 377b / *Social Contract* BK I 402b 403a BK III 411a c 412a b K IV 428 432b p m m 434b 435a
- 39 S ITH *Walt of Nations* BK V 337d 338c 340 343d 346c 347d
- 40 GREGORY *De luce and F* II 193c 194a 630b d 631a 644b 645c
- 43 F DERALIST *Numer* 55 174 d
- 43 M L R PRS *1st c* G *Germania* 329b 330a 334b 336c 337b 342d 343c 346a 350a
- 44 BO W *John* n 393a c
- 46 HEGEL *Philosophy of Right* ART III par 268 84c d / *Philosophy of History* INT O 171b-c K II 272a d ART V 365b c
- 49 D RWIN *Descent of Man* 314 316 321b-c
- 51 TOLSTOY *War and Peace* BK VI 244d 245d 260a 262a K VII 5-7b 538a BK XV 634a 635a EPILOGUE I 668a 669c EPILOGUE II 686c 687a
- 7c *The aristocratic principle* virt e as a condition of citizenship or public office
- 6 HERODOTUS *History* BK III 107d 108a
- 6 THUCYDIDES *Peloponnesian War* BK III 425a c
- 7 PLATO *Republic* BK III 339b 341d BK V 369c 370a BK VI 373c 375b BK VII 390b 391b / *Statesman* 605d 608d / *Laus* BK XII 796b 799a / *Seven* h *Letter* 807a b
- 9 ARISTOTLE *Politics* BK II CH II [1273 1274] 469d 470a BK III CH 4 5 473c 475d CH 7 476c 477a CH 9 [1281 2 8] 478d CH 1 478d 479a esp [1281 9-34] 479a CH II [1281 39 45] 479b CH I 13 480c 483a CH 15 [1286 7 14] 484b 485a CH 16 [1287 12 14] 486a CH 18 487a c BK IV CH 7 493a b BK V CH 7 [1307 5 15] 509a CH 9 [1309 33 43] 511c d BK VII CH 9 [1328 22 13 9 1] 5 a
- 14 PLUTARCH *Lycurgus* 45c d / *Lysander* 365 366a / *Lysander Sulla* 387d 388a
- 15 TACITUS *Annals* BK VI 105d 107b
- 27 SHAKESPEARE *Coriolanus* 351a 392 c esp ACT I SC I [9 166] 352b 353a ACT III SC I [142 161] 370d 371a
- 35 LOCKE *Civil Government* CH VII SECT 94 46 c CH VIII SECT 105 112 48c 51b passim
- 38 MONTESQUIEU *Spirit of Laus* BK III 10c 11a BK V 23a 25 K VIII 52c 53a
- 38 ROUSSEAU *Social Contract* BK III 411c 412c
- 40 GIBSON *Decline and Fall* 61d 62a
- 43 FEDERALIST NUMBER 68 206b m
- 43 M L REPRESENTATIVE *Government* 336c 338c 363a 366a 384a 387d
- 44 BOSWELL *Johnson* 125c d 141a 178b-c
- 46 HEGEL *Philosophy of Right* PART III par 291 295 97d 99a ADDITIONS 169 143d
- 51 TOLSTOY *War and Peace* BK VI 244d 245d
- 7d *The virtues which constitute the good or success of a ruler: the virtues associated with the possession of power*
- OLD TESTAMENT *Exodus* 18 21 26 / *Deuteronomy* 1 13 18 17 14 20 / *Judges* 9 1 20 / *Samuel* 8 11 18 15 2 3 (D) / *Kings* 8 11 8 1 22 23 / *I Kings* 3 16-28 (D) / *III Kings* 3 16-28 / *II Chronicles* 17 12 (D) / *I P* 1 pomen n 17 12 / *Psalms* 2 72 101 (D) / *Psalms* 2 71 100 / *Proverbs* 14 32 16 12 15 17 20 6 28 5 5 8 2 15 16 9 2 4 3 1 4 5 / *Eclesiastes* 10 5 7 16-17 / *Isaiah* 3 14 5 0 1 3 11 1-5 14 5 6 16 5 56 9-12 (D) / *Isaiah* 3 14 15 10 3 11 1-5 14 5-6 6 5 56 9-12 / *Iremiah* 23 1-6 (D) / *Ieremias* 23 1-6 / *Ezechiel* 22 27 45 9 46 18 (D) / *Ezechiel* 22 27 45 9 46 18
- APOTRY *A Wisdom of Solomon* 1 1 6 9 (D) OT *Bok of Wisdom* 1 1 6 9 / *Ecclesiastes* 8 2 3 10 1 3 (D) OT *Ecclesiastes* 8 2 3 10 3 / *I M c abets* 14 (D) OT *I Machabees* 14

- 4 HOMER *Iliad* BK IX [172] 57a 58d  
 5 AESCHYLUS *Persians* 15a 26d esp [623-908] 21c 24d  
 5 SOPHOCLES *Oedipus the King* [363-910] 107b-c / *Antigone* 131a 142d esp [162 210] 132c d [633 , 65] 136c 137d  
 5 EURIPIDES *Medea* [115 13] 213b / *Suppliants* [86-358] 260d 261c / *Iphigeneia at Aulis* [334-375] 427d-428b  
 5 ARISTOPHANES *Knights* 470a-487a-c / *Lyssistrata* 583 599a-c esp [486-586] 589a 590d / *Ecclesiazusae* 615a 628d esp [173 30] 617a-c  
 6 HRODOTUS *History* BK I 107c d BK IV 314a-c  
 6 THUCYDIDES *Peloponnesian War* BK II 404a d BK III 425a-c 427a-c K VI 513a d  
 7 PLATO *Gorgias* 285a 294d / *Republic* BK I 300b 306b BK II VII 319 401d / *Timaeus* 442b d / *Statesman* 605d 608d / *Lysis* BK IV 679c 682c BK XII 794a 799a-c / *Seventh Letter* 804b 805 806d 807b  
 9 ARISTOTLE *Politics* BK I CH 13 [1259<sup>b</sup> 33-60 o] 454b d BK II CH 9 [1 71<sup>b</sup> 1-9] 467d BK III C 4 [1277<sup>b</sup> 20] 474a-475a CH 7 [1 79<sup>b</sup> 33-4] 476d CH 13 481b 483a CH 15 [1 28<sup>b</sup> 78 22] 484d-485a CH 17 [1 87<sup>b</sup> 10-c] 8 [1288<sup>b</sup> 6] 486c-487a BK V CH 9 [1309 33 <sup>b</sup> 13] 511c d CH II [1 314 30-1315<sup>b</sup> 11] 517a 518c BK VI CH 2 518a 530a CH 14 [1332<sup>b</sup> 12]-CH 15 [1 334<sup>b</sup> 8] 537b 539  
 11 EPICTETUS *Discourses* BK II CH 7 182b 184a  
 12 ALBUCA *Mediations* BK I 253 256d K II 3 CT 5 261a K V SECT 30 276d 277a BK VI SECT 36 282b  
 14 PULCHER *Lycurgus* 45c 47a-48c / *Numa* P mpil 49a 61d esp 59 60b / *Pertius* 121a 141a-c / *Cicero* 174b d 193a-c esp 180d 181b / *Alcibiades* Co sol nus 193 195a-c / *Aristotle* 262b d 276a-c esp 263d 267a 273d 275c / *Maecius* Cato 276b d 290d esp 282a / *Arctus* Marcus C 290b d 292d / *Pyrrhus* 314b d 332d esp 319b 321a / *Lysander* 354b d 368 esp 357a b 362b 365a / *Sulla* 384 / *Lysander* Sulla 387b d 388c / *Nicias* 423a 430d / *Cicero* Nicias 455d-456d / *Age* 1 us 480b d-499a esp 482d-484a / *Alexander* 540b d 576d / *Cassius* 577a 604d esp 598d 601b / *Pompey* 604b d 619d e p 604b d 605d / *Cato* th Yo ger 620 648 esp 626d 627b 637b / *Agis* 648b d 649b / *Cleome* e 661b d / *Cicero* and *Thucydides* Gra hu Agis d *Cleomenes* 689b d 691 c / *Demetrius* 726a 747d esp 742 743b / *Dion* 781b d 802 p 781b d 800a-c / *Brutus* D on 824b d 826  
 15 TACITUS *Annales* BK I 41c d BK VI 86a b 87b-c 90d 91 100a b K XI 102d 103 / *Historiae* K I 193 194a 197a b 198b 208b-c K I 215c d 223a b 236d 237a 238d 240b BK I 254d  
 18 ALBERTUS *City of God* K X C H 9 523b d  
 20 AQUINAS *Summa Theologiae* RT Q 9 A1 REP 3 213c 214c Q 105 A1 REP 2 3 307d 309d  
 21 DANTE *Divine Comedy* HELL, XII 16b 17d esp [103 112] 17c XXVII [5 136] 40 41b PARADISE VIII [94 108] 126b-c XVIII [5 ] XV [148] 134a 138b passim  
 22 CHUCER *Physician's Tale* 366a 371a  
 23 MACHIAVELLI *Prince* 1a 37d esp CH VIII 12d 14c CH XV XIX 22b 30a  
 24 RABELAIS *Gargantua and Pantagruel* BK I 58a 60c  
 25 MONTAIGNE *Essays* 314c 316 337b-c 350d 354b 386b 388c 436c-438b 452a d  
 26 SHAKESPEARE *Richard III* 105a 148a-c / *Merchant of Venice* ACT IV SC I [84 97] 427c / *1st Henry IV* ACT I C II [18 240] 437c d ACT II SC II [93 161] 453d-454c / *2nd Henry IV* ACT IV SC V 494b 496d / *Henry V* ACT I SC I 533a d ACT IV SC I [1 3-301] 552d 554c / *Julius Caesar* ACT II SC I [10-34] 574c d ACT III SC II 583 586c  
 27 SHAKESPEARE *Measure for Measure* ACT I SC I 174a 175b SC III 177b-d ACT III SC II [275 96] 192b / *King Lear* ACT III SC IV [26-36] 264c / *Macbeth* ACT IV SC I [1 139] 303b 304d / *Coriolanus* ACT II SC III [62-229] 367d 368c ACT III 369a 377a  
 29 CERVANTES *Don Quixote* PART II 332b 336a 340b 343a 360d 361d  
 30 BACON *Advancement of Learning* 1a 2c 4 6c 20d 25c 74d 75a 94b 95b / *New Atlantis* 11 205d 207b  
 32 MILTON *Lord Gen Cromwell* 69a b / *Satan* 69b  
 35 LOCK *Civil Government* CH XIV SECT 160-166 62d 64a  
 36 SEXTUS *Timon* ART I 28b 29b  
 38 MONTESQUIEU *Spirit of Laws* BK VI 40a b BK XII 93 95b BK XVI 170a BK XVIII 259b K XXIX 262a  
 38 RUSSELL *Inequality* 362a d / *Political Economy* 367a 377b passim / *Social Contract* BK III 412d 413 414b-d  
 40 GORDON *Decline and Fall* 30c 32b passim 34a 39d 61d 64c passim 142b- 255b d 257 passim 284a 338d 339 343c 344 b 430a d 448c 449d  
 41 GORDON *Decline and Fall* 39b 40a 67d 68b 103d 104c 113 114a 168b 177c passim p 176c d 504c 505 577d 579  
 43 FARRIS *Number* R 3 33d 34a NUM R 15 65b d NUMBER 83c d NUM R 55 174 d NUM R 57 176d 177a NUM BER 75 223c d  
 43 MILL *Representative Government* 363a 366a 368b 369a  
 44 BOWELL *John* 120-c 178b  
 46 HENRY *Philosophy of History* ART I 275d 276d 281c 282d V RT V 360b 362a 366b  
 48 MELVILLE *Moby-Dick* 106a 107b  
 51 TOLSTOY *War and Peace* K I 9c 10d BK V 216a d BK X 465 467a BK XIV 611a c E I GU I 645a 646 CLE 680 d

## 8 The religious aspects of virtue and vice

## 8a The moral consequences of original sin

OLD TESTAMENT *Gen* 3 9-4 6 5 13 8 21 / *Job* 15 14 16 25 4-6 / *Psalms* 14 1 3 39 5-6 11 51 2-5 53 1 3—(D) *Psalms* 13 1 3 7 6 7 12 50 4-7 5 1 4 / *Proverbs* 20 9 / *L. cl. states* 7 2 27 29 9 3—(D) *Ecclesiastes* 7 1 28 30 9 3 / *Jeremiah* 17 9—(D) *Jeremias* 17 9

APOCRYPHA *Wisdom of Solomon* 2 23 4—(D) OT *Book of Wisdom* 2 23 25

NT TESTAMENT *Joh* 8 3 8 / *Romans* 3 9 5 21 esp 5 12 21 7 8 20 21 9 29 / *I Corintheans* 15 21 22 / *Galatians* 2 16 3 esp 3 11 3 22 4 1-7 5 19 21 / *Ephesians* 2 1-5 / *I John* 2 15 17

II AUGUSTINE *Confessions* BK I par 18 5c d / *City of God* BK XII CH 21 22 357a c BK XIII C I 1 15 360a 366d BK XIII II 23 BK XIV C I 5 372a 380b BK XIV CH 12 13 387a 388c CH 15-27 388d 397a BK XVI CH 12 571a c CH 15 572c 573b A XVII CH 22 23 606d 609a CH 30 617c 618a

19 AQUINAS *Summa Theologica* PART I Q 97 A 1 REP 3 513c 514c Q 98 A 2 517d 519a P RT I II Q 17 A 9 II 1 3 692d 693d

20 AQUINAS *Summa Theologica* PART I II QQ 81 83 162d 174b Q 87 178b 184a Q 9 A 6 212c 213c Q 94 A 6 REP 1 2 225d 226b Q 109 A 2 ANS 339c 340b A 3 ANS 340c 341b A 8 NS 344d 346a PART III Q 8 A 5 REP I 760a d QQ 14 15 78a 796a

21 D N T *D. in Comedy* II LL IV [13 45] 5c d PURGATORY I [16 45] 56a b x [121 129] 68c d XVIII [91] XXI [36] 97a 98a XXX XXXI 99b 102b PARADISE II 115a 116c

22 CHAUCER *Tale of Ma of Law* [477 479] 240b-241a / *P. d. ers Tale* 374a 382b esp [12 432 445] 375 [2 829-837] 381b / *Paraso T. le* par 13 504b 505 par 18 19 507b 508a

23 HO V *Les tha* PART II 112a II PART III 191b c 192a II 195d

24 RA LAI *G. gantua and P. tagruel* K II 81a b

25 MONTAIGNE *Essays* 213a 215b 218c 219a 233a 234a 238b 239c 250 b 294a II

30 B CON *N. cum O. gantum* BK I A I 52 195c d

32 MILTON *Paradise Lost* BK III [167 216] 139a 140 [274 3 4] 141b 142a K V [505-535] 163b-164a BK IV [780-1189] 264b 273a BK X 274a 298b P [103 123] 276b 277a [29-409] 279b 283a [585-64] 287a 288b [720-844] 290a 292b K XI [84-93] 301a [162 18] 302b 303a [25] 304b 305a K XI [423] BK XII [371] 308b 327a

33 I SCAL *Provincal Letters* 82a / *Pe. se* s 426-427 244b 430 431 245a 247b 434 435 248a 251a 437-450 251a 253a 56 272b

37 FIELDING *T. m. f. e* 38d

40 CIBBON *Decl. n. and Fall* 183b-c

44 BOS VELL *Johnson* 482a

46 HEGEL *Philosophy of Right* ADDITIO 5 14 118c d / *Philosophy of History* PART III 304d 305b PART IV 354a-c

50 MARX *Capital* 354b

51 TOLSTOY *War and Peace* BK XII 275a

## 8b The influence of religion on moral character the indispensability of divine grace for the acquisition of natural law by fallen man

OLD TESTAMENT *Proverbs* 21 3 / *Isaiah* 1 16-20 58 3 7—(D) *Isaiah* 1 16-20 58 3-7 / *Amos* 5 21 24

APOCRYPH *Wisdom of Solomon* 9 6 1422 27—(D) OT *Book of Wisdom* 9 6 14 22 27 / *Ecclesiast. cus* 15 1 35 3—(D) OT *Ec. clesiasticus* 15 1 35 5

NEW TESTAMENT *Mattheu* 3 8 7 16-27 22 36-40 23 1 33 / *Mark* 7 7 13 / *Luke* 3 8 6 46-49 11 37 44 12 33 / *Joh* 14 21 15 10 / *Acts* 26 30 / *Romans* 2 17 29 3 9-8 39 4 16-17 / *I Corintheans* 12 7-9 / *Galatia* 5 3 5 16-26 / *Ephesians* 2 1-9 4 1 2 4 17 5 21 6 10-17 / *Colossians* 1 9-11 / *I Timotheus* 3 16-17 / *Titus* 2 3 / *Hebrews* 10 23 13 20 21 / *James* 1 22 27 2 14 6 4 1 10 / *Peter* 1 13 16 4 1-6 5 10 / *II Peter* 1 2 10 / *John* 2 3 6 3 3 24

18 AUGUSTINE *Confessions* BK II par 15 12b-c / *City of God* BK IV CH 3 190 c BK V CH 19 20 224b 226a BK V CH 3 300c BK VI CH 5 362b c BK VII CH 4 511a 513c CH 21 524a 525a II 25 528 d BK VIII CH 15 16 572c 574 / *Christian Doctr. ne* BK I CH 39 635d 636a

20 AQUINAS *Summa Theologica* PART I II Q 109 338a 347d PART III Q 61 855a 858b Q C 5 A 1 879c 881d

21 D N T *D. in Comedy* HELL I II 1a-4a IV [13-66] 5c 6 PURGATORY I 53a 54c II [1 36] 62c d IX 63d 67b XI [1 30] 68d 69a XXX XXXI 99b 102b PA ADISE VII [19-120] 115b 116b

22 C I CIR *Prologue* [118 260] 161 163b [4 / 529] 167b 168a / *Pa. s. n. s. Prologue* 493b-495a / *P. s. s. Tale* 495a 550a esp par 15 495a 506b

25 MONTAIGNE *Essays* 209c 212a 294a II

32 I TON *Sonnets* XIV 66a / *Paradise Lost* BK I [1030 1033] 133b BK III [56-413] 136b-141b P [3 139] 138a [167 184] 139a b [22 245] 140b K XI [1 21] 299a b [251 26] 304b 305a [355 364] 307a BK XII [5, 6-605] 331b 332a / *S. mson Agonistes* [652-666] 353b-354a

33 I SCAL *Provincal Letters* 29b / *Pensées* 425 427 243b 244b 550 267a b 579 276a 668 294b 295

35 I O KE *T. I. t. n. b. c. / II. man Understand* ing BK II II s CT 5-6 105a c

- 35 HUME *H man Understands* g SECT XI DIV 114 503a  
 36 STERNE *Tristram Shandy* 255a 268a esp 257a 268a  
 37 FIELDING *Tom Jones* 38d  
 38 MONTESQUIEU *Spirit of Laws* bk xiv 200a 202a c  
 39 ROUSSEAU *Inequality* 366c d  
 40 CASSON *Decline and Fall* 191a 194a esp 191a d 291d 292d 297c 298b 303a d 631d 632a  
 42 KANT *Pure Re r* v 238 b / *Practical Reason* 327c d / *Jud ement* 595d 596c  
 43 MILL *Liberty* 290a 291d 296b d / *Utilitarianism* 458a b  
 44 BOSWELL *Johnson* 84d 85a 151b c 256d 95b 482a d  
 46 HAZARD *Philosophy of History* PART I 228d 229b ■ RT III 312d 313a PART IV 346a-c 349c d 353c 354c  
 49 D KWTY *Descent of Man* 593b  
 51 T LAYTON *War and Peace* ■ vi 272c 274a c bk vi ■ c 527a bk xii 560a 562d bk xiv 606a 607a  
 52 ДОСТОЙЕВСКИЙ *Brother Karamazov* bk ii 28d 32a 33c 34b bk iv 83a 88a passim bk v 127b-137c bk vi 146b d 170d passim bk xi 310d 317b passim 335c 336b 337a 346a passim  
 53 JAMES *Psychology* 203a 204b

8r The divine reward of virtue and punishment of vice here and hereafter

- OLD TESTAMENT Genesis 6-8 18 20-19 25 / E dus 22a 24 / *Leviticus* 8 21 30 / *II Samuel* 22 esp 2 a 25—(D) *II Kings* 22 esp 22a1-25 / *I King* 21 9 24—(D) *III Kings* 2 19-24 / *II Kings* 9 7 1 30-37—(D) *IV Kings* 9 7 10 30 37 / *II Chronicles* 6 23 30—(D) *II Paralipomenon* 6 23 30 / *Ezra* 9 13—(D) *I Esdras* 9 13 / *Job* esp 5 8 5 2 35 18 1 21 20 2 3 24 1 25 27 1 23 33 34 37 36 1 33 / *I alms* 1 7 8 17 9 1 2 15 18 21 34 37 58 73 84 89a 33 33 94 207 10-20 212 125 a—(D) *Psalms* 1 7 9-8 9 1 21 0-1 14 7 2 33 36 57 72 83 12 13 88 24 34 93 106 10-2 1 1 124 139 / *Proverbs* 1 29-3 2 7 21 22 3 9-10 31 35 4 8 9 5 21 23 10-6 24 30 1 12 7 28 13 9 21 25 4 1 9 32 15 29 6 17 7 5 13 19 16 1 2 3 15 16 18 2 28 22 8-9 2 23 24 2 6 19-20 25 1 22 / *Ecclesiastes* 2 26 3 6-17 8 5 12 14 9 1 12 4 / *I saiah* 1 4 2 10-4 1 5 9 13 1 6 13 11 4 4-6 28 32 33 5 6 4 48 22 58 3 2 59 65 6-7 66 24—(D) *Isaiah* 1 4 24 10 4 1 5 9 13 10 6 3 1 4 4 6 28 3 33 15 16 4 48 22 58 3 2 59 65 6-7 66 24 / *Jeremiah* 4 13 5 7-9 25 9 7 1 16 9 -9 8 1 2 4 2 3-5 3 9 23 9 2 25 4 3 1—(D) *Jeremiah* 4 13 2 5 7-9 3 9 6 9 -9 8 1 2 4

- 2 3-5 13 19 23 9-20 25 12 14 31 30 / *Lamentations* / *Ezekiel* 3 17 21 16 18 2 23 28 1 19 33 7 19—(D) *Ezekiel* 3 17 21 16 18 22 5 28 1 19 33 7 19 / *Daniel* 4 4 5 31—(D) *Daniel* 4-5 / *Hosea* esp 4 7 10 12 13—(D) *Once* esp 4 7 10 12 13 / *Joel* / *Amos* esp 1 2 4 1 3 5 11 20 8 1 14 / *Jonah*—(D) *Jonah* / *Micah* esp 3 6 10 7-7—(D) *Micah* esp 3 6 10-7 7 / *Nahum* passim esp 3 / *Isaiah* 1 1 2 4 17—(D) *Habacuc* 2 4 17 / *Zephaniah* 3 1-8—(D) *Sophonia* 3 1-8 / *Zachariah* passim esp 7 8 14 / *Malachi* 3 5 4 1 3—(D) *Malachi* 3 5 4 1 3  
 APOCRYPHA *Tobit* 4 5 11—(D) *OT Tobias* 4 6-12 / *Judith* 7 28—(D) *OT Judith* 7 17 / *Wisdom of Solomon* 3-5 esp 5 15 6 7 11 12 14 10-11 27 31 16-17 18 10 19 22—(D) *OT Book of Wisdom* 3-5 esp 5 15 6 1 7 11 12 14 10 1 27 31 16-17 18 10 19 22 / *Ecclesiasticus* 9 1-8 7 1 3 10-17 11 16-17 21 12 6 16 4 14 17 23 24 21 2 3 9-10 28 1 35 12 20 39 25 30 40 9 15 41 8 1—(D) *OT Ecclesiasticus* 5 1 10 7 1 3 17 19 11 16-17 28 12 4 6 5 15 17 19-20 21 2 4 10-11 28 1 35 14 26 39 10-36 40 9-15 41 11 13 / *Baruch* 1 22 2 9 4 1 / *I Maccabees* 2 49-63—(D) *OT I Maccabees* 2 49-63 / *II Maccabees* 6 3 15 7 36 38 9—(D) *OT II Maccabees* 6 13 15 7 36-38 9

- NEW TESTAMENT *Matthew* 5 1 30 6 1 4 7 21-27 0 14 5 4 22 18-20-24 15-41 41 49-50 18 7-9 19 16 22 23 14 39 39 23 33 25 3 46 / *Mark* 9 43-5 16 6—(D) *Mark* 9 43 49 16 6 1 10 25 37 14 7 14 16 19 26 18 29 30 / *Acts* 2 20 23 / *Romans* 2 1 10 3 4 / *I Corinth* 1 3 8 17 6 9-10 7 9 / *II Corinth* 1 5 / *Galatians* 6 7 11 / *Ephesians* 6 8 / *Colossians* 3 23 25 / *II Thessalonians* 1 7 9 2 1 14 / *Hebrews* 2 2 3 6 10 10 26 31 / *James* 1 12 / *I Peter* 3 10-12 5 2-6 / *II Peter* 2 1 Jude passim / *Revelation* 2 7 17 26-28 3 5 12 21 18 20 12 15 21 8—(D) *Apocalypse* 2 7 17 26-8 3 5 12 21 18 20 12 15 21 8  
 4 HOMER *Odyssey* bk xi [568-600] 248d 249a  
 5 AES HYLIUS *Suppl anti Maidens* [625 709] 9a 10a / *Pe rani* 15a 26d esp [623-968] 21c 24d / *Agamemnon* 1 [355-398] 5 d 56b / *Eumenides* 81a 91d esp [49 -56-] 86b 87a  
 5 SOPHOCLES *Oedipus the King* [861-910] 107b c / *Antigone* c [58 -626] 136b ■ / *Philoctetes* [433 452] 186a  
 5 EURIPIDES *Ion* [ 614 1622] 297c d / *Helena* [894-943] 306d 307b [993 031] 307d 308  
 6 HERODOTUS *Hist y* bk 7a b ■ 76b 77b bk 201d 202c bk v 237d 239a  
 7 PLATO *Rep bl* ■ 11 313b 314d 321d 322d ■ ■ 436c 441a / *Seventh Letter* 806



- (8) *The religious aspects of virtue and vice* 8c  
*The divine reward of virtue and punishment of vice here and hereafter*
- 12 LUCRETIVS *Nature of Things* BK III [9, 8 1023] 42d-43b
- 13 VIRGIL *Aeneid* BK VI [548-627] 225b 227b [722 751] 230a 231a
- 18 AUGUSTINE *City of God* K V CH 15 16 220d 221b BK VII CH 13 519a 520a CH 28 529d 530a c BK VII 560a 586a passim / *Christian Doctrine* BK I CH 20-21 629b
- 19 AQUINAS *Summa Theologica* PART I Q 21 124b 127c
- 20 AQUINAS *Summa Theologica* PART II Q 79 AA 3 4 158a 159c Q 87 AA 3-5 187b 189c PART III SUPPL QQ 92-99 1025b-1085a c
- 21 DANTE *Divine Comedy* passim
- 22 CHAUCER *Physicians Tale* [12 2 - 2] 370b 371a / *Pardoner's Tale* 374a 382b esp [2 397-593] 374a 377b / *Monk's Tale* 434a-448b / *Priors Tale* par 10 498b 502a
- 23 HOBBS *Leviathan* PART II 160c 161a 163d 164a PART III 193d 195d PART IV 250c 251b 253b 255b
- 24 RABELAIS *Gargantua and Pantagruel* BK II 119b 122a
- 26 SHAKESPEARE *Richard III* ACT I SC IV [42 63] 115a b
- 27 SHAKESPEARE *Hamlet* ACT I SC V [9-22] 37a / *Measure for Measure* ACT III SC I [118 132] 188a
- 29 CERVANTES *Don Quixot* PART II 222c 227d 228d
- 31 DESCARTES *Meditations* s 69b
- 32 MILTON *Paradise Lost* BK I [1]- K II [628] 93b 125a esp BK II [5, 92] 113a [477 485] 121b BK IV [1 3] 152b 155a BK VII [101 120] 321b / *Samson Agonistes* [667 7 9] 354a 355a [1156-1177] 364b 365a [1669-1707] 376a b
- 35 LOCKE *Human Understanding* K I C II SECT 5-6 105a-c SECT III 3 107b 108c BK II CH VII s T 62 194d SECT 72 198a-c CH XXVIII s CT 8 230a BK IV XVII SECT 2 364c
- 35 HUME *Human Understanding* SECT VI DIV 108 500b d DIV II 4 503a
- 37 FIELDING *Tom Jones* 20b 21a
- 38 ROUSSAU *Equality* 366c d
- 40 GIBSON *Decline and Fall* 198d 199a
- 41 GIBSON *Decline and Fall* 233d 234d esp 234b
- 42 KANT *Fundamental Principles of Morals* 264b [fn 1] / *Judgements* 594d [fn 1]
- 43 MILL *Liberty* 290c d / *Utilitarianism* 458a b
- 44 BOSWELL *Johnson* 363a b 482a d 514d 515a
- 47 GOETHE *Faust* PART II [11 931-941] 290b
- 48 MELVILLE *Moby Dick* 30 36b
- 51 TOLSTOY *War and Peace* BK VI 272a b b XIV 606a 607a

- 52 DOSTOEVSKY *Brothers Karamazov* BK II 33c 34b BK V 127b 137c BK VI 146b d 170d passim BK VI 337a 346a passim
- 54 FREUD *New Introductory Lectures* 878a b

### 8d The theory of the theological virtues

- NEV TESTAMENT I Corinthians 13 13 / I Thessalonians 1 3 5 8
- 18 AUGUSTINE *Christian Doctrine* BK I III 37-4c 635b 636a b
- 20 AQUINAS *Summa Theologica* PART II Q 53 A 3 REP 3 43b-44a Q 62 59d-63a Q 63 A 1 65a d Q 64 A 4 69b 70a Q 66 A 6 80c 81b Q 67 AA 3-6 83b-87c III 110 A 3 REP 1 350a d A 4 ANS 350d 351d PART III SUPPL Q 95 A 5 ANS and REP 2 1048a 1049d
- 21 DANTE *Divine Comedy* PARADISE XXX [1]-XXVI [81] 142d 146c
- 23 HOBBS *Leviathan* PART III 240c d
- 30 BACON *Advancement of Learning* 2c-4c
- 32 MILTON *Paradise Lost* BK XII [576-603] 331b-332a

### 8d(1) Faith and disbelief

- OLD TESTAMENT Isaiah 7 9-(D) Isaiah 7 9 / Habakkuk 2 4-(D) Habakkuk 2 4
- APOCRYPHA Wisdom of Solomon 3 9 14-(D) OT Book of Wisdom 3 9 14 / Ecclesiasticus 1 27 25 12-(D) OT Ecclesiasticus 1 34 25 16
- NEV TESTAMENT Matthew 17 14 21 21 17 22 31 32-(D) Matthew 17 14 0 21 17 22 31 32 / Mark 5 36 9 17 30 esp 9 23 11 20-24 16 16-18-(D) Mark 5 36 9 16-29 esp 9 22 11 20-24 16 16-18 / Luke 8 4 13 17 5-6 / John 1 7 12 13 3 9-18 36 4 43 5 24 31-47 6 35 36 40 47 7 37 39 8 24 41 46 10 24 28 37 11 25 26 11 36-46 14 14 16 8-9 27 20 24 29 31 / Acts 3 16 10 43 13 38 39 15 7 9 16 30-31 / Romans passim esp 1 16-18 3 21-5 2 9 30 33 10 8-17 / I Corinthians 1 23 2 4-5 13 2 7 13 16 13 / II Corinthians 1 24 4 3 4 13-5 9 8 7 13 5-(D) II Corinthians 1 23 4 3 4 13-5 9 8 7 13 5 / Galatians passim esp 2 16 2 2 3 1 20 5 5-6 5 22 / Ephesians 2 8-9 3 11 12 17 6 16 / Philippians 1 27 29 3 8-9 / Colossians 1 21 23 2 5 7 12 / I Thessalonians 2 13 3 5 8 / II Thessalonians 1 3 4 2 11 12 3 2-(D) II Thessalonians 1 3 4 2 10-11 3 2 / I Timothy 1 4 5 2 15 3 9 4 1 2 12 5 8 8 6 10 12 / II Timothy 1 12 13 2 22 3 8 10 15 4 7 / II Peter 2 2 3 6 1 10 22 23 38 39 11 1 12 3 13 7 / James 1 3 7 2 1 5 14 26 / I Peter 1 7-9 21 2 6 7 5 8-9 / II Peter 1 5 / I John 3 23 4 1 3 14 16 5 14-5 9-10
- 18 AUGUSTINE *Confessions* BK I part 1a b BK VI part 5-8 36b-37c / *City of God* BK VI 12 323a-c BK XVI CH 23 436-c BK XVI CH 16 573b 574a / *Christian Doctrine* BK I CH 37 40 635b 636 c

- 19 AQUINAS *Summa Theol* g ca PART I Q I A I 3b-4a
- 20 AQUINAS *Summa Theologica* PART I = Q 62 AA 3 4 61c 63 Q 65 AA 4-5 73d 75a Q 66 A 6 80c 81b Q 110 A 3 REP I 350a d A 4 A 5350d 351d PART II II Q 91 6380a-456d PART III SUPPL Q 99 A 4 ANS and REP I 1083a 1084a
- 21 D Y E *Dai e Comedy* H R DISE XIV 142d 144b
- 22 CH U R P *ron s Tale* par 61 529b 530a
- 23 H BBS *Leis han* PART I 83a b PART III 24 = 242a
- 25 MONTAIGNE *Ess ys* 209a 215b pas um 238c 2 9c 293d 294b
- 30 BA O *Advancemnt of Learni g* 19b c 95d 96c 100b
- 3 MILTON *Sonn is* XIV 66a / *Pa adi e Lost* BK VII [5, 6-60] 331b 332a
- 33 PASCAL *Pens s* 248 252 219a 220a 26 220 286-288 224a b 5 4 261a 747 319b 749 320a
- 35 LOCKE *Tole tion* 3b-4a 10c d
- 35 H I E *Human Understandi g* SECT X DV 100-10 496d-497b SECT XII DIV 132 509c
- 40 G I OY *D cline and Fall* 190d 101a
- 44 KANT *J dgement* 595d 596c
- 44 BO WELL *Joh on* 395a b 482a
- 46 H GE *Philosophy of History* PART IV 349b-350a
- 48 M LVILLE *Moby D ck* 30a 36b
- 48 TOLSTOY *War and Peace* BK V 196a 197b
- 52 D R VSKY *Brothers K a ama ov* BK II 26a 27d BK I 64c 70c K V 127b 137 p m BK V 146b d 170d pas um K X 337a 346a passim

## 8d(2) Hope and d spair

- O D TEST I NT *Numbers* 3 6-4 -(D) *Numbers* 13 17 4 10 / *Palm s* 22 33 18-22 38 5 42 5 11 43 5 71 p m esp 71 5 7 14 19 43 49 74 8 4 47 166 130 5 7 131 3 146 5 10 147 11-(D) *P lms* 21 32 18 2 37 16 41 6-12 4 5-6 70 pas m 59 70 5 70 4 1 8 43 40 74 81 114 4 / 66 129 4 7 30 3 145 5 10 46 11 / *P oterbs* 1 28 / *Jerem h* 8 11 2-(D) *Jer m as* 181 / *Lament i n* 3 24 26
- AP C Y HA *Il Ma bees* 7 14 20 15 7-9 (D) OT *Il M ch bees* 7 14 15 7-9
- N W T Y EN *Matthew* 6 31 34 / *Acts* 2-6 24 14 15 / *R ma* 4 8 5 1-5 8 9-39 2 2 15 4 3 / *I Cori th* 7 9 37 13 / *II Corinthia* 4 8 / *Ephe s* 1 18 1 4 4 / *C los i ns* 1 3 27 / *I The alon* 1 3 4 13 5 8-(D) *I Thessa l n s* 3 4 2 5 8 / *Tu s* 2 2 3 3 7 / *Hebr us* 3 6 6 9- oesp 6 1 6 8 / *I Peter* 1 3 3 15 / *I Joh* 3 3
- 18 AU U TIVE *C fess ns* A XIII p 14 5 114 d / *Cuty of God* K XIV c 14 511a 513 / *Christia D ctri n* K I 37-4 635b-636a c

- 20 AQUINAS *Summa Theologica* PART II Q 62 AA 3 4 61c 63a PART II II QQ 17 22 456d 482c PART III SUPPL Q 99 A 5 ANS and REP 1 1048a 1049d
- 21 DANTE *Divine Comedy* HELL III [1-9] 4a VI I [67]-IX [105] 11c 13b PURGATORY III [103] 145] 57a c PAR DISE XIV 144b-145d
- 22 CLAUSER *Parson s Tale* par 60-61 529b 530 par o o 3 549a 550a

## 8d(3) Charity and the disorder of love

- OLD TESTAM NT *Lex icus* 19 18 33 34 / *Deu teronomy* 6 5 10 12 18-19 11 1 13 2 13 3 19 9 30 6 15 20 / *Joshua* 2 5 23 1 -(D) *Josue* 22 5 23 11 / *Palm passim* esp 18 1 31 23 116 1 119 132 133 1-3-(D) *Psalms* pass m esp 17 30 24 114 1 118 132 132 1-3 / *Proterbs* 10 12 15 17 25 2 22 / *S g of Solomon* esp 8 6-7-(D) *Canticle of Canticles* esp 8 6 7
- APOCALYPT *Tobit* 4 13 3 12 14-(D) OT *T bua* 4 14 13 16-18 / *Wisdom of Solomon* 1 9 6 17 18-(D) OT *Book f Wi dom* 3 9 6 18 19 / *Ecclesiasticus* 2 15 16 7 3 10 19 13 4-5 24 8 25 1 1 1 27 17 34 16 47 8 -(D) OT *Ec leuasticus* 2 18-19 7 32 1 23 13 18 19 24 4 25 25 1 14 16 27 18 19 34 19-20 47 9-10
- NEW TEST NT *Matt h* v 5 21 26 38-46 19 16-21 22 35 40 / *Mark* 1 28 34 / *Luke* 6 27 36 10 25-37 / *Joh n* 13 31 17 26 esp 13 34 35 14 15 14 21 14 23 4 15 12 14 15 17 / *Romans* 8 35 39 1 9-1 13 9 10 / *I Cori nt ans* 8 1-3 13 1 14 16 14 / *II Cor tha s* 6 6 8 7-8 / *G latians* 5 6 13 15 22 / *Ephe ans* 1 4 3 17-19 4 2 5-16 5 1-2 25-33 / *Philippi ns* 9 5 8 2 1 4 / *Colos s* 1 2 2 3 4 9 / *I Th s lo* 1 3 2 4 9-10 5 8 / *II Th ssalo n* 1 3 3 5 / *I Timot h y* 5 4 12 6 11 / *II Timot h y* 1 7 13 2 22 / *Titus* 2 2 4 / *Hebreus* 4 13 1 / *Jam s* 2 8 / *I Peter* 1 7-8 2 17 38 4 8 0 / *II Peter* 1 7 / *I Joh* esp 5 15 10-23 4 7-5 3 / *II J h* 7-6
- 18 AUGUSTINE *Co f fssio s* bk IV par 7 20 20d 24c BK V p r 3 24 50b 51a BK X par 40 81c BK X p r 38-42 121b 122c / *C ty of G d* K X CH 3 300b 301 BK XIV c 7 380 381 K XV h 416 = K XXI CH 16 573b 574a / *Ch rist an Do trim* BK I = 22 629b 630 CH 8 631d 632a H 37-40 635b-636a c BK II CH 41 656 c K III CH 10 661 662a
- 19 AQUINAS *Summa Theologica* PART Q 59 A 4 R P 3 309a 310a PART Q 4 A REP 3 630b 631a Q 26 A 3 735c 736b
- 20 AQUINAS *Summa Th l gica* PART Q 6 AA 3 4 61c 63 Q 65 A 2 3 72a 73d Q 66 A 6 80 81b Q 67 A 6 87 c Q 98 A 239b-240c Q 3 = 350a d A 4 AN 350d 351d O I 4 4373 d A 8 376 II RT I II Q 4 AA 3-5 404c 407a Q 19 A 6 469a d A

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- 10 472b d QQ 23 46 482c 605a = Q 184 A I  
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 21 D NT *D i e Com dy esp PURGATORY* XV  
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 22 CHAUCER *Prologue* [5 0-541] 168b / *Parson s*  
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 30 B CON *Advancem t of Lear ing* 2c 4c 80b  
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 32 M TON *Parad s Lost* K XII [576-605] 331b-  
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 33 PA CAL *Pro n i l Letters* 78b 80b / *Pens es*  
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 35 LOCK *Tolerat on la 2c*  
 37 FIELD NO *Tom Jo s* 26a 27a  
 44 BOSWELL *J h son* 392b  
 51 TOLSTOY *War and Peace* K I 50a BK III  
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 52 DOSTOEVSKY *Brothers Ka ma ov* BK II 26a  
 27d BK V 117c 137c passim K VI 146b d  
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8e *The inf sed vi tues nd the moral and in*  
*tellectu l gifts*

- OLD T TAMENT *I Kings* 3 5 15 4 9-34-(D)  
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 -(D) *I Paral p meno* 22 2 / *II Chronicles*  
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 11 15 15 5 24 24 8 43 33 5 29 51 7-  
 (D) OT *Ecl s ticus* 15 15 15 5  
 24 34 38 43 37 50 31 5 22 23  
 NEW TESTAM NT *Mattheu* 6 33 / *I Co s th ns*  
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 7 PLATO *Meno* 189d 190a c  
 9 ARISTOTL *Ethics* K X CH 9 [1179<sup>b</sup> 0-23]  
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 19 AQUINA *Summ Theologica* PART I Q I 3  
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 20 AQUINAS *Summ Th ol gica* ART II Q 51  
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- 21 D NTE *Dwne Comedy PURGATORY* VII [112  
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 23 HO B S *Leviathan* PART II 149c d PART III  
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8f *The qualities which flow from charity*  
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- OLD TESTAMENT *Gene is* 2 15 17 3 2 1 18 /  
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*bers* 12 3 / *Deuteronomy* 5 18 8 11 17 / *I*  
*Samuel* 12 14 15 15 22 3-(D) *I K I* 31  
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*Job* 22 29 / *Psalms* 18 5 22 6 25 9 37 11  
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 7 8-(D) *Ecclesiastes* 7 9 / *Isa ah* 16 5-(D)  
*Isa as* 16 5 / *Jeremiah* 7 23-(D) *Jeremia*  
 7 23 / *Hosea* 12 6-(D) *Osee* 12 6 / *Micah*  
 6 8 -(D) *Micah* 6 8 / *Zephaniah* 2 3-(D)  
*S phon as* 2 3  
 APOCRYPHA *Tobit* 14 9-(D) OT *Tobias* 14 11  
 / *Wisd om of Sol mon* 12 19-(D) OT *Book*  
*of W d m* 1 19 / *Ecl s ticus* 1 27 3 17  
 20 7 17 10 13 14 28 29-(D) OT *Ecl s ticus*  
 1 34 3 19-21 7 19 1 15 17 31 3  
 N W TESTAM NT *Mattheu* 5 1 2 27 32 6 10  
 7 21 9 13 0 35 39 11 29 12 46-5 16 24  
 26 II 19 10 12 18 20 20 8 21 5 23 23 /  
*M k* 9 33 37 1 II 9-(D) *Mark* 9 32 36  
 10 11 19 / *Luke* 6 36 9 46 48 57-6 14 7 14  
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 21 D NTE *Dwne Comedy HELL* II [43 119]  
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 22 CH ULER *T l of Man of Law* 236b 255b /  
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- 26 SH. ESPEAR *Merchant of Venice* ACT IV sc 1 [173 205] 427b d
- 30 BACON *Advancement of Learning* 2c-4c
- 32 M. TON *Comus* 33a 56b esp [385 489] 42a
- 44 / *S. elis xiv* 66a / *Paradise Lost* bk xii [5 6-605] 331b 332a / *Areopagitica* 409b-410a
- 33 PAS AL *Provincial Letters* 91a 94a / *Pensées* 535-540 265 266a
- 35 LOCKE *T. leration* 1a 2c
- 42 KANT *Practic l Reason* 325a 327d
- 48 M. LUVILL *Moby Du k* 30 36b
- 51 TOLSTOY *W and Peace* bk viii 338b 339c bk xv 621b-622c
- DOSTOEVSKY *B others Karama oi* k ii 26a 27d bk v 117c 137c passim bk vi 146b d 170d passim bk ix 269a d k x 313c 314d ilogu 411b-412d
- 25 MONTAIGNE *Essays* 111a b
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- 41 GI SON *D. elis e and Fall* 232c 233c
- 44 BOS. ELL *Johnson* 283a
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- 51 TOLSTOY *War and Peace* bk vi 273c 274a c
- 52 DOSTOEVSKY *Il others Karamazov* k i 11a 15a c bk iv 83a 88a passim k vi 146b d 170d passim bk vii 189a 191
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- VIRGIL *Aeneid* k i [323-296] 110a 111 bk viii [306-336] 267a 268a
- 15 TAC. TUS *An als* k iii 51b c
- 29 CERVAN. s *D. n Quixot* PART I 27b-28a
- 30 B. CON *Advancemen of L. arning* 15a b 54a b
- 32 MILTON *Pa. ad. e Los* k xi [334] k xii [605] 306b 332a
- 35 LOCKE *Civil Governmen* c i viii SECT 110-1 50c 51b
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- 40 GIBSON *Decl. a d Fall* 633d 634a esp 634
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- 49 DARWIN *D. cent of M. n* 318d 321b 323a 330a c 596d 597a c
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- 20 AQUINA *Summa Th. log. a. P. RTI II Q. 64 A. R. 3 66d 67c Q. I 8 A. 4 336b 337d PA. TII II Q. 184 A. 8 REP. 6 637 639b Q. 184 A. 8-Q. 186 A. 10 649b 663b*
- 21 DANT. *D. i. e C. medy* AR. DISC. III [1]-V [87] 109b 113 xi xii 122a 125a
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- 23 H. B. ES *Let. ath* PART V 272d 273a
- 24 R. B. L. S. *G. gantius a d Pantagru l* bk ii 126 d

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- Another discussion of the unity of virtue see ONE AND MANY 5a
- Discussions relevant to the doctrine of the mean see COURAGE 2 PRUDENCE 3b 3c TEMPERANCE 1b
- Virtue in relation to happiness see HAPPINESS 2b(3) PUNISHMENT 3b
- The role of habit in the conception of virtue see HABIT 6b and for the distinction between virtuous and content acts by reference to habit see PRUDENCE 3d TEMPERANCE 1c
- Other treatments of the distinction between the moral and the intellectual virtues see HABIT 2b 5b 5d and for the analysis of particular moral or intellectual virtues and their relation to one another see ART 1 COURAGE 1 4 JUSTICE 1c-1d PRUDENCE 2a-2c 3a SCIENCE 1a(1) TEMPERANCE 1a-1b WISDOM 2a
- Other treatments of the theological virtues the infused virtues and the supernatural gifts see GOD 6c(2) HABIT 5c(-)-5c(3) KNOWLEDGE 6c(5) LOVE 5b(2) OPINION 4a RELIGION 1a WISDOM 1c
- The moral significance of temperamental dispositions see EMOTION 4c MAN 6a
- Discussions relevant to the independence or nt dependence of particular virtues see JUSTICE 1d PRUDENCE 3-3a



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 — *L'ecole des femmes (The School for Wives)*  
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## Chapter 98 WAR AND PEACE

### INTRODUCTION

THE twentieth century may go down in history as the century of war and peace—the first in which world wars were fought the first in which men established world peace and so perhaps the last in which peace among nations was merely an armed truce a breathing spell between wars. Even if world peace is not actually begun in our time we may prove to be the first generation of men on earth who under the impact of world wars have made a firm attempt to draw a decisive conclusion from all the accumulated wisdom concerning war and peace.

It may be thought that antiquity anticipates and that at all times the tradition contains the fundamental notions which have recently gained so wide a currency. Socrates and Epicurus for example speak of world citizenship. Marcus Aurelius and Zeno the Stoic even more explicitly envision a world community. Alexander tries to conquer the world to make it one. Virgil proclaims a peace which will be as universal as the Roman empire and Dante recasting Virgil's vision advocates the re-enactment of that empire and with it monarchy—by which he means one government—to give all Christendom political as well as spiritual unity.

To neglect these anticipations would be to overlook wisdom's perennial aspirations for unity. But if because of their significance for peace they should not be neglected here neither should their importance be exaggerated. For one thing man has always acted at variance with his wisdom nullifying the hope of peace by preparing always for the next war. For another thing it is doubtful that peace by conquest or by empire—the only ways in which the past could conceive the world's coming to the unity of peace—could be a peace perpetual as well as universal. The latter without the former is but a fraction of the ideal.

Even when in modern times the ideal is at last stated in terms of peaceful methods for achieving peace—by law not by force by consent not by imposition—something less than the whole world in its global reality is the object of consideration. William Penn and Rousseau for example state the indispensable legal conditions for turning Europe from a continent perpetually wracked by wars into a society able to perpetuate peace but their historical location causes them to limit their proposals to Europe.

Kant alone first makes the generalization which lies dormant in their reasoning and which almost begs to be inductively drawn from the conceptions of war and peace so plainly stated by Hobbes and Locke. He conceives the possibility of a peace not only perpetual but truly world wide. Yet for all the rightness he perceives in what he calls the cosmopolitical ideal it seems to remain for him an ideal—not attainable except by approximation. Yet because it is right he holds that it must be pursued even though it is impossible. We are the first generation to argue for world peace as a conclusion on the level of reality and to conclude that it is possible because it is necessary.

The argument is not yet won nor the conclusion enacted but henceforth the problem of war and peace can hardly be discussed without stating the issue as a choice of world government and peace or of world anarchy and war. If it does no more than seriously face that choice for the first time the twentieth century makes a signal advance in understanding one of the great ideas—an advance which can change the course of history and the life of man more than the discovery of atomic fission which is only an instrument of war or a tool of peace. But just as the release of heat and energy from nuclear combustion has its prototype in ordinary fire which the ancients associate with the beginning

of civilization: so the insight which may exert a new civilizing force has its origin in the fundamental thinking man does about war and peace as soon as he begins to think about society.

IN THE TRADITION of the great books war and peace are usually discussed in political terms or at least in terms of the relation of men to one another individually or in groups. But the psychologist, the moralist and the theologian sometimes use the word peace in another sense to signify the absence of conflict within the individual or to signify an inner harmony—peace of mind on earth or the heavenly rest of the blessed in the presence of God.

In their spiritual meanings war and peace are considered in other chapters. *e.g.* interior conflict is a topic in the chapter on OPPRESSION and interior peace is discussed in the chapter on HAPPINESS. We shall not treat these matters here except in their bearing on the social or political discussion: nor shall we consider civil war except for the light it throws on the nature of war and peace in general. The special problem of discord and strife within a single community belongs to the chapter on REVOLUTION.

Certain attitudes toward war between states seem to recur in every century. In the face of the ever present fact of war men deplore its folly or find some benefit to compensate for its devastation. But throughout most of the tradition those who see only suffering no less than those who celebrate the martial spirit seem to accept the necessity of war. Good or bad or a mixture of the glorious and the horrible war seems to most of those who write about it an inevitable thing—as ineradicable as disease and death for the living body—as inescapable as tragedy. Only in recent times has the inevitability of war been questioned and the possibility of lasting peace proposed.

The two books which look most steadily and searchingly on the face of war—Homer's *Iliad* and Tolstoy's *War and Peace*—seem to behold it as a mixed thing. Battle with sword and javelin on the plains of Troy or with musket and howitzer on the Russian steppes lets loose a fury which sweeps human nature to extremes of nobility and baseness, to acts of heroic strength and cringing weakness. To both Homer and

Tolstoy war is the realm of force and chance and though both see in it occasions for courage and magnanimity and even for a kind of charity or at least compassion the whole spectacle is one of agony pervaded by darkness and dismay: *torn bodies and ruined minds*. Grievous war is Homer's repeated epithet. Pale fear and black death are the colors of battle. They are everywhere that Ares reigns. Ares blood-stained bane of mortals, stubborn god of war.

To the poet of any century Homer or Tolstoy, Virgil or Shakespeare war's human features appear to be unchanged even if its mechanical dress and physical lineaments are altered—its weapons and armor, its organization of men and materials, its scope of operations in space and time. The historian who measures the contestants and keeps the score of victories and defeats takes a different view. He dwells on all the differences which mark progress in the art of war or which enable wealthier and more advanced societies to wage wars of greater magnitude. To Herodotus no military undertaking ever assumed the proportions of Xerxes' army on the march, raising a cloud of dust from horizon to horizon. Yet Thucydides says that before the Peloponnesian War there was nothing on a great scale either in war or in other matters.

The historian is attentive not only to weights and numbers, to the changing accoutrement of war and its mechanical elaboration, but also to inventions in the sphere of strategy and tactics. The Alexandrian phalanx, the patience of Fabius, the forced marches of Caesar, Hannibal's outflanking and enveloping movements at the battle of Cannae, the deployment in depth of the Roman legions on the Rhine—these are but a few of the inventions of military genius which as Plutarch, Tacitus and Gibbon recognize have an effect far beyond the advantage that novelty initially gives them. They become the classical models of war's art and the principles of its science.

Tolstoy may scoff at the historians who stand in awe of military genius. He may be right that Kutuzov's lack of plans rather than Napoleon's art of outwitting all contingencies is the essence of great generalship. Nevertheless Tolstoy magnifies the campaign of 1812 as beyond comparison the greatest mass movement of human



from west to east and then from east to west just as Herodotus apotheosizes the movement of the Persian horde from east to west and Thucydides the rise of Athenian naval power

Writing from the center of a whole continent in arms a century later Freud in 1915 gives his impression of what was yet to become the first world war. A war of such proportions and ferocity was almost incredible before it happened.

Then the war in which we had refused to believe broke out and Freud writes not only is it more sanguinary and more destructive than any war of other days because of the enormously increased perfection of weapons of attack and defense but it is at least as cruel as embittered as implacable as any that preceded it. It tramples in blind fury on all that comes in its way though there were to be no future and no goodwill among men after it has passed. It rends all bonds of fellowship between the contending peoples and threatens to leave such a legacy of embitterment as will make any renewal of such bonds impossible for a long time to come.

THE ENEMIES OF WAR use a variety of weapons in their attack. The *Trojan Women* of Euripides cries out with the bitterness of Andromache and Hecuba against the misery of war's innocent victims—the women and children who are left to mourn the vanquished or to become the victors' spoils. Aristophanes turns laughter rather than pity and fear against the waste of war. Such comedies as the *Peace*, the *Acharrians*, the *Lysistrata* make light of the issues over which men fight and give war the aspect of a wearisome business preposterous in its motives and hollow in its victories.

The genial satire of Rabelais exposes the impostures of war but beneath the far play which deflates by its exaggeration there is the earnest serious note of Gringousier's resolution not to undertake war until I have first tried all the ways and means of peace. Swift's satire is not so amiable. In the eyes of the truly rational Houyhnhnms war appears to be as senseless and despicable as the Yahoos who wage it. Gulliver tries to tell the Houyhnhnm who is his master about the wars of Europe their causes and their cost. I was going on to more particulars he relates when my master com-

manded me silence. He said whoever understood the nature of the Yahoos might easily believe it possible for so vile an animal to be capable of every action I had named if their strength and cunning equalled their malice. When a creature pretending to reason could be capable of such enormities he dreaded lest the corruption of that faculty might be worse than brutality itself. He seemed therefore confident that instead of reason we were only possessed of some quality fitted to increase our natural vices.

According to Augustine it is not man's nature but his sinfulness which degrades him below the beasts devoid of rational will who live more securely and peaceably with their own kind than men. For not even lions or dragons have ever waged with their kind such wars as men have waged with one another. Calling it the greatest and most pompous of human actions Montaigne asks whether war is not the testimony of our weakness and imperfection for, in truth the science of undoing and killing one another and of ruining and destroying our own kind has nothing in it so tempting as to make it coveted by beasts who have it not.

But in his essay *Of Ill Means Employed to a Good End* Montaigne also quotes Juvenal's remark that we suffer the ills of a long peace. Luxury is more pernicious than war. He seems to approve the Roman policy of maintaining wars not only to keep their own men in action for fear lest idleness the mother of corruption should bring upon them some worse inconvenience but also to serve for a blood-letting to their Republic and a little to evaporate the too vehement heat of their youth. War as a purgative is a familiar theme. Hobbes like Malthus later suggests that when all the world is overcharged with inhabitants then the last remedy of all is war which provideth for every man by victory or death.

Many writers seem to be ambivalent about war. Plato for example seems to see both sides of the question though he does not give them equal weight. In the *Republic* Socrates proclaims the discovery that war is derived from causes which are also the causes of almost all the evils in states private as well as public. In the *Laus* the Athenian Stranger admits to Cleinias the Cretan that the laws of his city devised

primarily with a view to war can be justified insofar as they aim at courage but he reminds him later that insofar as such laws regarded a part only and not the whole of virtue I disapproved of them

That he regards permanent peace as the ideal toward which the moral law commands us to strive does not prevent Kant from saying that a prolonged peace favours the predominance of a mere commercial spirit and with it a debasing self interest cowardice and effeminacy and tends to degrade the character of the nation Nor is war to be absolutely condemned

Provided it is conducted with order and a sacred respect for the rights of civilians war itself says Kant has something sublime about it and gives nations that carry it on in such a manner a stamp of mind only the more sublime the more numerous the dangers to which they are exposed and which they are able to meet with fortitude Yet even while thinking that war can be a spur for developing to the highest pitch all talents that minister to culture Kant reflects that the underlying purpose of war may be to prepare the way for a rule of law government the freedom of states and thus bring about their unity in a system established on a moral basis

Hegel alone is not ambivalent Not only is war not to be regarded as an absolute evil but it is according to Hegel a necessary corrective for the corrosive influence of peace

War is a state of affairs he writes which deals in earnest with the vanity of temporal goods and concerns—a vanity at other times the common theme of edifying sermonizing War has the higher significance that by its agency as I have remarked elsewhere the ethical health of peoples is preserved in their indifference to the stabilization of finite institutions just as the blowing of the winds preserves the sea from foulness which would be the result of a prolonged calm so also the corruption in nations would be the product of prolonged let alone perpetual peace

Far from agreeing with those who advocate perpetual peace as an ideal towards which humanity should strive Hegel points out that in peace civil life continually expands all its departments lift themselves up and in the long run men stagnate As a result of war na-

tions are strengthened and people involved in civil strife also acquire peace at home through making wars abroad

To Prince Andrew in *War and Peace* who says that the aim of war is murder the methods of war are spying treachery and their encouragement or to Freud who says that the warring state permits itself every such misdeed every such act of violence as would disgrace the individual man Hegel has an answer

States are not private persons he says but completely autonomous totalities in themselves and so the relation between them differs from a moral relation and a relation involving private rights The relation between states is a relation between autonomous entities which make mutual stipulations but which at the same time are superior to these stipulations

Self interest or a will for its own welfare pure and simple is according to Hegel the highest law governing the relation of one state to another Therefore when politics is alleged to clash with morals the doctrine propounded rests on superficial ideas about morality the nature of the state and the state's relation to the moral point of view

IN HEGEL'S VIEW wars occur when the necessity of the case requires He is not alone in thinking war inevitable but others who think the same do not do so in the same mood or with the same opinion of the reason for its inevitability Drain the blood from men's veins declares Prince Andrew's father and put in water instead then there will be no more war! It is an illusion Freud thinks to suppose that civilization so transforms human nature as to lift it above the impulses of war In war he says our fellow citizens have not sunk so low as we feared because they have never risen so high as we believed The sad fact he concludes is that war is not to be abolished so long as the conditions of existence among the nations are so varied and the repulsions between peoples so intense there will be there must be wars

William James finds the human race as bellicose as its individual members are instinctively pugnacious and Alexander Hamilton says that if we judge from the history of mankind we shall be compelled to conclude that the fiery

and destructive passions of war reign in the human breast with much more powerful sway than the mild and beneficent sentiments of peace and that to model our political systems upon speculations of lasting tranquility is to calculate on the weaker springs of human character

To the extent that even those who deplore war despair of lasting peace Machiavelli may not be too cynical a realist when he advises the prince that he ought to have no other aim or thought nor select anything else for his study than war and its rules and discipline When princes have thought more of ease than of arms they have lost their states The prince ought never therefore to have out of his thoughts this subject of war and in peace he should addict himself more to its exercise than in war The prince who delays in order to save himself from war makes a serious mistake War Machiavelli tells him is not to be avoided but is only deferred to your disadvantage

Like Machiavelli Cleinias the Cretan in Plato's *Laws* justifies his city's constant preoccupation with war or preparation for war The world is foolish he thinks in not understanding that all men are always at war with one another For what men in general term peace [is] only a name in reality every city is in a natural state of war with every other not indeed proclaimed by heralds but everlasting

Both Plato and Aristotle seem to agree that war is somehow rooted in the nature of things—in the nature of men and the nature of cities Yet both also look upon war as transitory even if recurrent No one can be a true statesman the Athenian Stranger tells Cleinias who looks only or first of all to external warfare nor will he ever be a sound legislator who orders peace for the sake of war and not war for the sake of peace The whole of life according to Aristotle is divided into two parts business and leisure war and peace There must be war for the sake of peace business for the sake of leisure things useful and necessary for the sake of things honorable Men must be able to engage in business and go to war but leisure and peace are better they must do what is necessary and indeed what is useful but what is honorable is better

But how does war produce peace? One an-

swer may be Tristram Shandy's that as war begets poverty poverty begets peace Another may be Virgil's In the opening book of his *Aeneid* Jove predicts the coming of a Caesar destined to bound with ocean his domain as with the stars his glory When at last Rome has conquered the world the golden age of peace—or at least the *pax Romana*—will supplant war's age of iron Then war shall be laid aside and the harsh world soften to peace the accursed gates of Battle shall be shut with iron bar and clenching bolt and godless Frenzy shall sit within upon the weapons of savagery

In accordance with this heaven-laid destiny Anchises bids his son Aeneas to make war for the sake of peace Roman be this thy care—these thine arts—to bear dominion over the nations and to impose the law of peace on spare the humbled and to war down the proud! But some of the proud who are subjugated by Rome's legions take a different view of the peace that is imposed by force of arms Tacitus reports the speech of the British chieftain Galgacus in which he refers to those terrible Romans from whose oppression escape is vainly sought by obedience and submission To robbery slaunder plunder they give the lying name of empire they create a wilderness and call it peace

Augustine more soberly reflects on the inevitable frustration of the Roman kind of peace The imperial city he writes has endeavored to impose on subject nations not only her yoke but her language as a bond of peace How many great wars how much slaughter and bloodshed have provided this unity And though these are past the end of these miseries has not yet come For though there have never been wanting nor are yet wanting hostile nations beyond the empire against whom wars have been and are waged yet supposing there were no such nations the very extent of the empire itself has produced wars of a more obnoxious description—social and civil wars—and with these the whole race has been agitated either by the actual conflict or the fear of a renewed outbreak

Despite his perception of war's failures despite his enjoining the wise men not merely to wage but to lament the necessity of just wars, Augustine holds that it is with the desire for

peace that wars are waged. Every man seeks peace by waging war but no man seeks war by making peace. For even they who intentionally interrupt the peace in which they are living have no hatred of peace but only wish it changed into a peace that suits them better. Even those whom they make war against they wish to make their own and impose on them the laws of their own peace.

Peace according to Augustine consists in harmony and concord. Peace between man and man is well ordered concord. Domestic peace is the well ordered concord between those of the family who rule and those who obey. *Civil peace is a similar concord among the citizens.* The peace of all things is the tranquility of order. Without disagreeing essentially Aquinas explains that peace involves more than concord. Wherever peace is, he says, there is concord but there is not peace wherever there is concord if we give peace its proper meaning. The peace between men may consist in concord not indeed any kind of concord but that which is well ordered through one man agreeing with another in respect of something befitting to them both. For if one man agree with another not of his own accord but through being forced such concord is not really peace.

For men to be at peace with one another Aquinas believes each must be at peace with himself but man's heart is not at peace so long as he has not what he wants or if having what he wants there still remains something for him to want. This according to Aquinas explains why Augustine defined peace not simply as concord but as *the tranquility of order* for by tranquility is meant all the desires of each individual man being set at rest together. It also explains why those who seek war and dissension desire nothing but peace which they deem themselves not to have. For Aquinas reminds us there is no peace when a man enters into concord with another counter to what he would prefer. Consequently men seek by means of war to break this concord because it is a defective peace in order that they may obtain peace where nothing is contrary to their will. Hence all wars are waged that men may find a more perfect peace than that which they had heretofore.

The fundamental insight here seems to be that though charity or love produces the unity of peace peace is also the work of justice — indirectly as Aquinas says insofar as justice removes the obstacles to peace. Thucydides gives us an historian's confirmation of the theologian's point. He tells us why he considers the long truce or armistice—a period of no actual fighting—to be a part of the war. Only a mistaken judgment, he writes, can object to including the interval of treaty in the war. Looked at by the light of facts it cannot; it will be found to be rationally considered a state of peace where neither party either gave or got back all that they had agreed upon.

To the same effect is the speech of Hermocrates the Syracusan which Thucydides reports.

That war is an evil is a proposition so familiar to everyone that it would be tedious to develop it. No one, he declares, is forced to engage in it by ignorance or kept out of it by fear if he fancies there is anything to be gained by it.

I suppose that no one will dispute that we went to war at first in order to serve our several interests that we are now in view of the same interests debating how we can make peace and that if we separate without having as we think our rights we shall go to war again.

THUCYDIDES OBSERVATION THAT PERIODS OF ARMISTICE OR TRUCE ARE PART OF WAR and the remark of Cleinias in Plato's *Laws* that every city is in a natural state of war with every other may anticipate Hobbes but full clarity on the point is not reached until Hobbes explicitly distinguishes between war as battle and the state of war which always prevails between men or nations when they do not live together under a common government.

War consisteth not in battle only, Hobbes explains, or in the act of fighting but in a tract of time wherein the will to contend by battle is sufficiently known and therefore the notion of time is to be considered in the nature of war as it is in the nature of weather. For as the nature of foul weather lyeth not in a shower or two of rain but in a inclination thereto of many days together is the nature of War consisteth not in actual fighting but in the known disposition thereto during all the time there

is no assurance to the contrary All other time  
 ■ Peace

Hobbes does not exclude from the condition of peace differences between men or even discord but only fighting or the need to resort to fighting as a way of settling differences or resolving conflicts He is cognizant of the distinction which Machiavelli paraphrases from Cicero There are two ways of contesting Machiavelli writes the one by law the other by force the first method is proper to men the second to beasts Here Machiavelli adds the comment that because the first is frequently not sufficient it is necessary to have recourse to the second But Hobbes does not think it is always necessary At least there is a cure for the war of every man against every man That cure is the formation of a commonwealth and the institution of government with sufficient coercive force to maintain law and secure peace Anarchy and the condition of war according to Hobbes are one and the same a condition in which each man being a law unto himself and judge in his own case must of necessity resort to force if he would impose his will upon or resist the will of another

Since men are everywhere found in societies living under law and government it might seem that the universal state of war to which Hobbes refers is now abolished Not so according to Hobbes for though there had never been a time wherein particular men were in a condition of war one against another yet in his opinion in all times kings and persons of overrigh authority because of their independency are in continual jealousies and in the state and posture of gladiators having their weapons pointing and their eyes fixed on one another that is their forts garrisons and guns upon the frontiers of their kingdoms and continual spies upon their neighbors which is a posture of War

This notion that sovereigns are always in a state of war with one another—because being sovereigns they are autonomous *i.e.* not subject to any superior government—seems to be accepted by most of the great political writers who come after Hobbes The point is sometimes differently formulated but the basic insight remains essentially the same

Locke for example makes a threefold dis-

junction between the state of nature which is anarchy or complete independence the state of war in which force without authority is resorted to by men to settle their differences and the state of civil society which provides law and government for the arbitration of disputes

Civil society he writes is a state of peace amongst those who are of it from whom the state of war is excluded by the umpirage which they have provided in their legislative for the ending all differences that may rise amongst any of them

Since Locke holds that want of a common judge with authority puts all men in a state of nature it follows for him that though the state of nature and the state of war may not be identical the state of nature unlike that of civil society inevitably lapses into the state of war If in a state of nature men fail to settle their differences by reason they enter into the state of war which is the realm of force or a declared design of force where there is no common superior on earth to appeal to for relief

With these qualifications Locke not only agrees with Hobbes that all princes and rulers of independent governments all through the world are in a state of nature but also draws from this the same implication for war and peace Since the whole community is one body in the state of nature in respect of all other states or persons out of its community Locke argues that the government of each state must have the power of war and peace leagues and alliances in relation to everything external to itself

Montesquieu and Rousseau slightly alter Hobbes point by attributing the origin of war itself to the existence of separate societies War writes Rousseau is a relation not between man and man but between State and State Because they are in a state of nature among themselves bodies politic experience in his opinion the inconveniences which had obliged individuals to forsake it Hence arose national wars battles murders and reprisals which shock nature and outrage reason

Hegel's ultimate reason for thinking that war is ineradicable seems to be not merely that sovereign states are in a state of nature in relation to each other but that they must always re-

main so. There is no Praetor to judge between states, he writes. At best there may be an arbitrator or a mediator, and even he exercises his functions contingently only, *i.e.* in dependence on the particular wills of the disputants.

That is why Hegel dismisses Kant's idea for securing perpetual peace by a League of Nations to adjust every dispute. This idea, Hegel writes, presupposes an accord between states. This would rest on moral and religious or other grounds and considerations, but in any case would always depend ultimately on a particular sovereign will and for that reason would remain infected with contingency. Hence he concludes, if states disagree and their particular wills cannot be harmonized, the matter can only be settled by war.

KANT AGREES THAT in the absence of what he calls a cosmo-political constitution, or world state, war is inevitable. In their external relations to one another, states, like lawless savages, are naturally in a non-judicial condition, and this, according to Kant, is a state of war in which the right of the stronger prevails, and although it may not in fact be always found as a state of actual war and incessant hostility, yet the condition is wrong in itself in the highest degree, and the nations which form States contiguous to each other are bound mutually to pass out of it.

How shall this be accomplished? Is Kant's idea the one Hegel attributes to him? Is the alliance of nations, of which he speaks, to be a league of nations, or does he have something more than that in mind when he says that this mutual connection by alliance must take the form of a Federation?

On the one hand, he calls for a universal Union of States analogous to that by which a Nation becomes a State, and argues that it is only thus that a real state of Peace could be established. But on the other, he explains that he means only a voluntary combination of different States that would be *dissoluble* at any time, and not such a union as is embodied in the United States of America, founded upon a political constitution and therefore indissoluble.

The arguments for the federal constitution of the United States help to make this issue

clear. The authors of the Constitution regard it as providing a more perfect union than the Articles of Confederation under which the thirteen separate colonies are banded together by little more than treaties or alliances. To the writers of *The Federalist*, who advocate the adoption of a federal union to replace the loose confederacy or league of states, there is no middle ground between the establishment of peace through federal union and the continuation of the state of war between separate states.

A man must be far gone in Utopian speculations, Hamilton declares, who can seriously doubt that if these States should either be wholly disunited, or only united in partial confederacies, the subdivisions into which they might be thrown would have frequent and violent contests with each other. To look for a continuation of harmony between a number of independent unconnected sovereignties in the same neighborhood would be to disregard the uniform course of events and to set at defiance the accumulated experience of ages. In another paper, Hamilton admits that there is nothing absurd or impracticable in the idea of a league or alliance between independent nations for certain defined purposes, precisely stated in a treaty, but he thinks that Europe has taught an instructive but afflicting lesson to mankind, how little dependence is to be placed on treaties which have no other sanction than the obligations of good faith.

He returns therefore to attack the visionary or designing men who stand ready to advocate the paradox of perpetual peace between the States, though dismembered and alienated from each other. What reason have we to expect peace and cordiality between the members of the present confederation in a state of separation? It seems to him an established truth that the several states, in the case of disunion, would be subject to those vicissitudes of peace and war, of friendship and enmity with each other, which have fallen to the lot of all neighboring nations not united under one government.

The Federalists do not seriously recommend their prescription for peace as a plan for the whole world. Yet they see the generalization that is implicit in all their reasoning. Happy would it be, Madison says, if such a remedy

for its infirmities could be enjoyed by all free governments if a project equally effectual could be established for the universal peace of mankind!

John Stuart Mill writing somewhat later and in the light of the experience of American federation as a peace plan seems to be even less ready to propose world federal government as the indispensable condition of world peace. He has no doubt that federal union puts an end to war and diplomatic quarrels. But he does not think that abrogating the distinction between fellow countrymen and foreigners by making them all fellow citizens of an encompassing state—an object which is one of the worthiest to which human endeavor can be directed—can in the present state of civilization be promoted by keeping different nationalities of anything like equivalent strength under the same government.

Not only does Kant definitely dismiss the notion of a world union formed along American lines but even that less perfect union of states which would have the form of a *Permanent Congress of Nations* seems to him an impracticable idea in the world as it is at the end of the eighteenth century. With the too great extension of such a Union of States over vast regions he writes any government of it and consequently the protection of its individual members must at last become impossible and thus a multitude of such corporations would again bring round a state of war.

Nevertheless Kant refuses to yield completely to this conclusion. The morally practical reason he affirms utters within us its irrevocable *Veto*. *There shall be no War*. Hence the question no longer is as to whether Perpetual Peace is a real thing or not a real thing or as to whether we may not be deceiving ourselves when we adopt the former alternative but we must act on the supposition of its being real. We must work for what may perhaps not be realized and thus we may put an end to the evil of wars which have been the chief interest of the internal arrangements of all States without exception.

And in his *Idea of a Universal History on a Cosmo Political Plan* Kant does more than urge upon us our moral duty to work for perpetual peace as prerequisite to the highest

political good. He engages in prophecy. He pictures the nations of the world after many devastations overthrows and even complete internal exhaustion of their powers as driven forward to the goal which Reason might well have impressed upon them even without so much sad experience. This is none other than the advance out of the lawless state of savages and the entering into a Federation of Nations.

However visionary this idea may appear to be it is nevertheless the inevitable issue of the necessity in which men involve one another.

THE ARGUMENT FOR WORLD GOVERNMENT is the means to world peace is nowhere made in the great books as explicitly as in Dante's *De Monarchia*. Wherever there can be contention Dante writes there judgment should exist otherwise things should exist imperfectly without their own means of adjustment or correction. Between any two governments, neither of which is in any way subordinate to the other contention can arise either through their own fault or that of their subjects. This is evident. Therefore there should be adjudication between them. And since neither can know the affairs of the other not being subordinate (for among equals there is no authority) there must be a third and wider power which rules both within its own jurisdiction.

This third power Dante continues is either the world government or it is not. If it is we have reached our conclusion. If it is not it must in turn have its equal outside its jurisdiction and then it will need a third party as a judge and so *ad infinitum* which is impossible. So we must arrive at a first and supreme judge for whom all contentions are judicable either directly or indirectly. Therefore world government is necessary for the world. Aristotle according to Dante saw this argument when he said Things hate to be in disorder but a plurality of authorities is disorder therefore authority is single. But Aristotle certainly did not draw the conclusion that a single government embracing all mankind should be instituted so that by common law it might lead all toward peace. Nor with the exception of Kant does any other great author argue to this conclusion. But as we have seen Kant unlike

Dante reaches this conclusion only to qualify his acceptance of it and his advocacy of world government

Nevertheless several of the great books do contain the nerve of the argument. It is contained in one fundamental proposition that is variously enunciated by Hobbes and Locke, Rousseau and the Federalists. That proposition is *As anarchy leads to war government establishes peace and just laws preserve it*. By inductive generalization it seems to follow that if local peace depends on local government world peace depends on world government.

But if except for Dante and Kant no one until the present made this inference the tradition of western thought does include not only the essential premise for making the inference but also the controlling vision of a politically united humanity—all men as fellow citizens in a single political society embracing the earth.

Kant speaks of the right of man as a citizen of the world to attempt to enter into communion with all others. Epictetus says there is but one course open to men to do as Socrates did never to reply to one who asks his country. I am an Athenian or I am a Corinthian but I am a citizen of the universe.

Reflecting on the fact that man's nature is rational and social Marcus Aurelius declares

My city and my country so far as I am Antoninus is Rome but so far as I am a man it is the world. If we look at what value every thing has with reference to the whole we will perceive that man is a citizen of the highest city of which all other cities are like families. The reason which is common to all men dictates a common law of human life. If this is so

Aurelius argues we are fellow citizens if this is so we are members of one political community if this is so the world is in a manner a state.

Aristotle describes how the family is formed by the union of man and wife, parents and children and from this first of all social units the tribe or village is formed by a union of families and the city or state by a union of villages. He does not carry this series on to its natural terminus but Augustine does. After the state or city Augustine says comes the world, the third circle of human society—the first being the family, the second the city.

Yet Augustine who orders earthly peace to the peace of heaven does not prophesy a single political community of all men living together under one government. The heavenly city he says while it sojourns on earth calls citizens out of all nations and gathers together a society of pilgrims of all languages not scrupling about diversities in the manners, laws and institutions whereby earthly peace is secured and maintained but recognizing that however various these are they all tend to one and the same end of earthly peace.

One and the same end of earthly peace may require one city of man as well as one city of God. That according to Dostoevsky seems to be implied in the fact that the craving for universal unity is the third and last anguish of men. Mankind as a whole he writes has always striven to organize a universal state. There have been many great nations with great histories but the more highly developed the more unhappy they were for they felt more acutely than other people the craving for world wide union.

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To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 *HOMER Iliad* BK II [265-283] 12d the number 4 is the number of the volume in the set, the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 *JAMES Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left and right hands of the page. The letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 *PLATO Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART, BOOK, CHAPTER, etc.) are sometimes included in the reference. Line numbers in brackets are given in certain cases. e.g. *Iliad* BK II [265-283] 12d.

**BIBLE REFERENCES.** The references refer to book, chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows. e.g. *OLD TESTAMENT Nehemiah* 7 45—(D) *II Esdras* 7 46.

**SYMBOLS.** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference. passim signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Idea*, consult the Preface.

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 15 TA ITU *A l* BK 4a d 10d 11b / *H s* to c BK I 190 191 195a 196b 198d 199c 202 205a BK I 215d 216b 224d 225a  
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## CROSS REFERENCES

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- Other discussions of the state of nature and the state of nature *see* GOVERNMENT 5 LAW 4g LIBERTY 1b NATURE 2b STATE 3c
- The general theory of revolution or civil war *see* REVOLUTION 1-1b and for the distinction between civil and international war *see* REVOLUTION 1c
- Various considerations of the class war *see* LABOR 7c-7c(3) OLIGARCHY 5c OPPOSITION 5b REVOLUTION 5a STATE 5d(2) WEALTH 9h
- The issue concerning the justice of making war *see* JUSTICE 9f
- Another discussion of the effect of war upon women and children *see* FAMILY 5c
- The weakness or strength of democracy in the sphere of war *see* DEMOCRACY 7c
- The costs of war *see* WEALTH 9g
- Other discussions of imperialism which have a bearing on wars of conquest and rebellions against the conquerors *see* LIBERTY 6c MONARCHY 5-5b SLAVERY 6d STATE 9f
- Other discussions of the inevitability of war and the necessity of military preparedness *see* NECESSITY AND CONTINGENCY 5d OPPOSITION 5c STATE 9c(1)
- Another treatment of the role of the military in the life of the state *see* STATE 8d(1) 9c(1) and for another discussion of the military arts *see* ART 9c
- The consideration of treaties alliances and international law in relation to war and peace *see* GOVERNMENT 5a LAW 4g STATE 9c(2)
- The conception of law and government as indispensable to civil peace *see* GOVERNMENT 1a LAW 1a and for the conception of lawlessness or crime as breaching the peace of a society *see* LAW 6c-6c(1)
- The consideration of justice and law as principles of civil peace *see* JUSTICE 9b LOVE 4a 4b STATE 3c
- Discussions bearing on the idea of world government and its relation to world peace *see* CITIZEN 8 LOVE 4c STATE 10f

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups:

I Works by authors represented in this collection

II Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

## I

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 — *On World Government and De Monarchia*  
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 18 30-33 37-41 45 48  
 — *The Art of War*  
 P. B. *On Of Empire in Essays*  
 ROUSSEAU *A Lasting Peace*  
 A. SMITH *Lectures on Justice, Police, Revenue and Arms*  
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 — *Perpetual Peace*  
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 — *The Kingdom of God*  
 — *Christianity and Patriotism*  
 — *Virtues for Soldiers*  
 WILSON *Memories and Studies* CH 4  
 FREUD *Why War?*

## II

- CARR *The Great War*  
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 T. MOORE *Utopia* K 11  
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 — *Alephimus*  
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## Chapter 99 WEALTH

### INTRODUCTION

IF the only questions about wealth concerned the means of getting and keeping it the causes of its increase and decrease the idea of wealth would be confined to economics. The end of the medical art is health writes Aristotle in the *Ethics* and that of economics wealth. But as the *Ethics* indicates the moralist and the statesman are also concerned with health and wealth—not simply as things to get and keep but in relation to all other goods and as constituents of the good life and the good society. What is regarded as the end in economics may be only a means in ethics and politics in which case Aristotle suggests the latter sciences subordinate economics even as politics subordinates military strategy and military strategy the making and use of armaments.

The discussion of riches in the tradition of the great books exhibits these two ways of considering wealth. The Bible the poets historians and philosophers deal with wealth as a factor in the life of men and societies. They scrutinize the desire for wealth or the love of money in relation to sin and virtue. They raise questions of justice concerning the distribution of wealth the rights of property and fairness in exchange—in buying and selling borrowing and lending and in compensating the laborer. They describe the effect of poverty and prosperity or opulence upon states and prescribe the attitude which individual men as well as societies should take toward wealth and poverty.

Throughout it seems to be assumed that wealth is merely a means however important or indispensable. Though wealth may also be viewed as an end when the problem is one of how to acquire produce or increase it the fact that when possessed it should be treated as a means leads the moralist to condemn not only the miser the hoarder or the man who devotes his whole life to making money but

also those who elevate wealth into the sort of end which justifies any means that can advance its pursuit.

The other approach is that of the economist. Two of the great books—Smith's *Wealth of Nations* and Marx's *Capital*—deal not with wealth as a means but with the means to wealth. A third though by title *A Discourse on Political Economy* is concerned with the principles of government and with wealth only insofar as in Rousseau's conception government includes the administration of property as well as the protection of persons. Provision for the public wants he writes is the third essential duty of government.

Rousseau explains the title of his treatise by reference to the etymology of the word economy which meant originally only the wise and legitimate government of the household for the common good of the whole family. It is in this sense that Aristotle employs the word and that a work sometimes attributed to him bears it as the title. The meaning of the term Rousseau goes on was then extended to the government of that great family the State. To distinguish these two senses of the word the latter is called *general* or *political* economy the former domestic or particular economy.

Adam Smith uses the term more narrowly. Not only does he limit his inquiry to the nature and causes of wealth but by specifying the wealth of nations he restricts himself to political economy which he says has two distinct objects first to provide a plentiful revenue or subsistence for the people or more properly to enable them to provide such a revenue or subsistence for themselves and secondly to supply the state or commonwealth with a revenue sufficient for the public services. In saying that the political economist aims to enrich

both the people and the sovereign; and that the great object of the political economy of every country is to increase the riches and power of that country. Smith takes wealth as an end (though it may also be a means—so far as power depends upon riches)—and tries to formulate the natural laws of wealth making.

Nowhere does he define the quantity of wealth which should satisfy a nation. The natural resources of a country, the size and industry of its population, and various unfavorable contingencies may set certain bounds to the maximization of wealth. Within these bounds the country which adopts and follows a sound system of political economy—one which accords with the right conception of wealth and its causes—can (and deserves to) become as wealthy as possible.

Yet Smith, in treating wealth as an end and its increase without limit as a good, does not make economics absolutely autonomous. He regards political economy as a part of politics—a branch of the science of a statesman or legislator—and to that extent implies that other considerations than wealth may control the policies of a nation in its regulation of agriculture, industry, domestic commerce, and foreign trade.

Furthermore, the larger moral questions which accompany Smith's economic speculations in his *Lectures on Jurisprudence* and his earlier treatise *Of the Moral Sentiments* are not entirely absent from the *Wealth of Nations*. But to the extent that he writes purely as an economist, concerned with securing cheapness or plenty, or what for him is the same—wealth and abundance—he adheres to considerations of expediency and only infrequently permits himself *obiter dicta* on justice or questions of right and wrong.

Karl Marx also writes as an economist. He details the factors which govern the production and distribution of wealth as these manifest themselves in the great historic systems of production—the slave economy, the feudal economy, and the bourgeois or capitalist economy. So far he is a scientist and even more than Adam Smith, an historian who describes how wealth is acquired and how it multiplies by reproducing itself. But Marx is much less content than Smith to stop there. Smith tries to de-

scribe the economic process scientifically in order to prescribe the means a nation should use to become increasingly prosperous, but Marx undertakes to describe it in order to criticize the way in which some men get richer than they need be while others become poorer than they should be.

His critical purpose makes inevitable the expression of moral judgments concerning such inequities, and by implication they are everywhere present. For example, a descriptive phrase like surplus value connotes unearned increment; an apparently neutral economic term like profit is given the invidious moral significance traditionally attached to usury. Nor does Marx rest with criticism. He has an economic program to propose, a program he reveals more clearly in the *Communist Manifesto* than in *Capital*. The aim is not primarily to increase the production of wealth, but to remedy its inequitable distribution under all past economic systems. This program looks forward to the final revolution which will bring the necessary historic motion of progress to its culmination when socialism replaces capitalism.

SMITH AND MARX IT APPEARS are not economists in the same sense. But it may be supposed that in spite of their different purposes they would as scientists agree in their description of economic phenomena. To some extent they do; yet the difference in their point of view and aim leads to a quarrel about facts, or at least about their interpretation.

Classical economists in the tradition of Adam Smith dispute the consequences which Marx draws from the labor theory of value, especially with regard to the origin of profit from the surplus product of unpaid labor time. Profit seems to them as much a part of the natural price of commodities as the wages paid to labor and the rent paid to the landlord.

In exchanging the complete manufacture either for money for labor or for other goods over and above what may be sufficient to pay the price of the materials and the wages of the workmen something, writes Smith, must be given for the profits of the undertaker of the work who hazards his stock in this adventure. The value which the workmen add to the materials therefore resolves itself in this case into

two parts of which the one pays their wages the other the profits of their employer upon the whole stock of materials and wages which he advanced. He could have no interest to employ them unless he expected from the sale of their work something more than what was sufficient to replace his stock to him and he could have no interest to employ a great stock rather than a small one unless his profits were to bear some proportion to the extent of his stock.

It is precisely on this point of profit as a return for risking one's capital stock that Marx charges Smith and after him Ricardo and J. S. Mill with being apologists for the capitalist system. He quotes Mill's statement that the cause of profit is that labor produces more than is required for its support. The fact that Mill does not question the validity of this surplus value which accrues as profit to the *entrepreneur* the fact that Ricardo treats surplus value according to Marx as a thing inherent in the capitalist mode of production which mode in his eyes is the natural form of social production is explicable in Marx's view only if we recognize that their economic theories mix special pleading with science. These bourgeois economists instinctively saw and rightly so he says that it is very dangerous to stir too deeply the burning question of the origin of surplus value.

Though he distinguishes between its classical and vulgar forms political economy for Marx is a bourgeois science which first sprang into being during the period of manufacture. Political economy has generally been content to take just as they were the terms of commercial and industrial life. Engels remarks in a prefatory note to *Capital* and so it never went beyond the received notions of profit and rent never examined this unpaid part of the product (called by Marx surplus product) in its integrity as a whole and therefore never arrived at a clear comprehension either of its origin and nature or of the laws that regulate the subsequent distribution of its value.

Marx's work is in his own conception of it at one and the same time a criticism of the capitalist economy and of the science of economics which accepts and defends that economic system. In his own preface to *Capital* Marx tells the reader that the volume which I

now submit to the public forms the continuation of an earlier work—*A Contribution to the Critique of Political Economy*. Within the sphere of political economy as defined by the problem of augmenting a nation's wealth the author of the *Wealth of Nations* similarly finds a critique of prevalent economic fallacies—those of the physiocrats and the mercantilists—inseparable from the constructive statement of his own theory.

ECONOMISTS ENGAGE IN controversy over technical points in the analysis of production exchange and distribution or in the development of theories of value and price money and capital property and poverty. Such controversy tends to become complicated both by the larger questions in which the economic issues are imbedded and also by the different points of departure and the different objectives of the economists. What at first may look like a simple issue of fact often fails on closer examination to be capable of resolution by scientific inquiry or simply by an accurate description of the phenomena.

Even when all relevant matters of fact are determined conflicting interpretations of their significance remain. Behind these lie divergent presuppositions often unexpressed. Those who start with different conceptions of the problem and from different principles assumed rather than argued tend to reach conclusions which may appear to be opposed but which do not really exclude one another—at least not totally. Each from its own point of view may be true and from that point of view the other is not so much false as irrelevant.

Smith may be right for example when he says that the consideration of his own private profit is the sole motive which determines the owner of any capital to employ it either in a culture in manufactures or in some particular branch of the wholesale or retail trade. The different quantities of productive labor which it may put into motion and the different values which it may add to the annual produce of the land and labor of the society according as it is employed in one or other of those different ways never enter his thoughts. Smith may be right not only as to the fact asserted but also with regard to its implication for the increase

of the nation's wealth that the wealth of a society increases as owners of capital act from self interest in a system of free enterprise which permits the possibility of profits to indemnify them against the risk of losses and to reward them for the thrift whereby they accumulated capital to invest productively

But Marx may also be right when he says that the system of free enterprise and capitalistic production could not have started simply through the thrift of individuals but required a primitive accumulation of capital. The accumulation of capital he says presupposes surplus value. Surplus value presupposes capitalistic production. Capitalistic production presupposes the existence of considerable masses of capital and labor power in the hands of producers of commodities. The whole movement therefore seems to turn in a vicious circle out of which we can only get by supposing a primitive accumulation (previous accumulation of Adam Smith) preceding capitalistic accumulation on a primitive accumulation which is nothing else than the historical process of divorcing the producer from the means of production. He may be right furthermore when he goes on to say that the economic structure of capitalistic society has grown out of the economic structure of feudal society. The historical movement which changes the producers into wage-workers appears on the one hand as their emancipation from serfdom and from the fetters of the guilds but on the other hand these new freedmen became sellers of themselves only after they had been robbed of all their own means of production and of all the guarantees of existence afforded by the old feudal arrangements.

It may be true that a capitalist who privately owns means of production would not invest them without the possibility of gaining a profit. It may be true as Smith would insist that he would not be justified in doing so. This however does not invalidate—as it is not invalidated by—Marx' theory of the original expropriation which in his opinion initiated capitalistic enterprise nor does it conflict with Marx's insistence that the capitalist must exploit labor in order to make profits since he can derive them only from the surplus value created by wage-laborers who produce more than

is returned to them for their own needs or subsistence

THE FOREGOING POINT AND counter point in economic theory must serve as one example of the way in which Smith and Marx pass each other rather than meet on many of the basic economic issues. It would be impossible within the compass of this Introduction to chart the intricate relationship of their thought including their agreements and clear oppositions as well as the matters on which they simply diverge because they are discussing the same problem from different viewpoints. The reader can discover for himself in greater detail the pattern of conversation between these two great economists by studying the passages from their works which are cited in the References.

As a glance at the Outline of Topics will show many of the headings represent technical problems or issues in economic theory as that is narrowly conceived in modern times. Some however are more general. They state themes which place the discussion of wealth in the larger context of moral and political questions and which throughout the whole tradition engage poets, historians and philosophers—not merely the economists of the eighteenth and nineteenth centuries.

To some extent the more general themes are treated in other chapters such as LABOR, JUSTICE, OLIGARCHY, VIRTUE and HAPPINESS, FAMILY and STATE. Here we shall consider them for their bearing on the nature and kinds, the sources and uses, of wealth and also its goodness and evil.

THE ANCIENTS CONCEIVE WEALTH as consisting in the variety of external goods which sustain life—food, clothing and shelter. But wealth may include more than the bare necessities. When Sostrates in the *Republic* outlines a simple economy which aims to satisfy only basic needs, Glaucon tells him that he is providing for a city of pigs. More is required he says for the ordinary conveniences of life. People who are to be comfortable are accustomed to lie on sofas and dine off tables and they should have sauces and sweets in the modern style. Socrates replies by projecting a luxurious State—a State at fever heat—which goes beyond the

necessaries (such as houses and clothes and shoes. The arts of the painter and the embroiderer, he says, will have to be set in motion and gold and ivory and all sorts of materials procured, and the city will have to fill and swell with a multitude of callings which are not required by any natural want.

This distinction between necessities and luxuries which has many implications for ethics and economics as well as for politics does not draw the line between natural and artificial wealth. Nor is natural wealth identified exclusively with natural resources in their pure state unconverted by labor for use or consumption. Wealth is generally thought to comprise all consumable goods, whether necessities or luxuries, whether products of hunting, agriculture or manufacture, and all the means of producing them. Only money is excluded. Only money is declared to be either not wealth at all or artificial wealth.

Yet the confusion of money with wealth seems to be prevalent at all times, as repeated attempts to correct the fallacy indicate. The use of money originates, according to Aristotle, with retail trade, which is not a natural part of the art of getting wealth, for he goes on: "had it been so, men would have ceased to exchange when they had enough." What Aristotle calls retail trade replaces the barter of necessary articles. Made possible by the use of coin, retail trade, he says, comes to be thought of as the art which produces riches and wealth.

Indeed, Aristotle continues, riches is assumed by many to be only a quantity of coin. But he agrees with those who maintain to the contrary that coined money is a mere sham, a thing not natural but conventional only, because it is not useful as a means to any of the necessities of life, and he who is rich in coin may often be in want of necessary food. But how can that be wealth of which a man may have a great abundance and yet perish with hunger like Midas in the fable, whose insatiable prayer turned everything that was set before him into gold?

To say that money in itself cannot satisfy any natural need does not imply that it serves no economic purpose. Plato and Aristotle, Hobbes, Locke, and Kant, as well as Smith and Marx, understand the utility of money as a

medium of exchange indispensable for the circulation of commodities—to use Marx's phrase—beyond the stage of barter. Money is not only a medium of exchange, according to Plato, it reduces the inequalities and incommensurabilities of goods to equality and common measure, and Aristotle seems to anticipate Marx's conception of money as the universal form in which all economic values can be expressed when he defines wealth to mean all things whose value is measured by money.

The economic utility of money in exchange and as a measure of value, or even the fact that gold and silver coin may have some intrinsic value because of the labor involved in mining and minting the metals, does not alter the distinction between natural and artificial wealth.

Natural wealth, Aquinas explains, is that which serves man as a remedy for his natural wants, such as food, drink, clothing, cars, dwellings, and such like, while artificial wealth, such as money, is that which is not a direct help to nature, but is invented by man for the convenience of exchange and as a measure of all things saleable.

The same point is restated by Locke in the seventeenth century, but it is still necessary for Smith a century later to argue against the mercantilist theory of national prosperity on the ground that it confuses wealth with money.

It would be too ridiculous to go about seriously to prove, Smith writes, that wealth does not consist in money, or in gold or silver, but what money purchases, and is valuable only for purchasing. Goods can serve many other purposes besides purchasing money, but money can serve no other purpose besides purchasing goods. Money, therefore, necessarily runs after goods, but goods do not always or necessarily run after money. The man who buys does not always mean to sell again, but frequently to use or consume, whereas he who sells always means to buy again.

Nevertheless that wealth consists in money, or in gold and silver, is a popular notion which naturally arises from the double function of money, as the instrument of commerce and as the measure of value. The notion is so familiar that Smith observes, even they who are convinced of its absurdity are very apt to forget their own principles, and in the course of their

reasonings to take it for granted as a certain and undeniable truth. Some of the best English writers on commerce set out with observing that the wealth of a country consists not in its gold and silver only but in its lands, houses and consumable goods of all different kinds. In the course of their reasonings, however, the land, houses and consumable goods seem to slip out of their memory and the strain of their argument frequently supposes that all wealth consists in gold and silver and to multiply these metals is the great object of national industry and commerce.

The two principles of the mercantilist policy are according to Smith that wealth consisted in gold and silver and that those metals could be brought into a country which had no mines only by the balance of trade or by exporting to a greater value than it imported. A favorable balance of trade thus necessarily became the sole object of the mercantilists and Smith adds its two great engines for enrichment in the country therefore were restraints upon importation and encouragements to exportation.

Since in his opinion the wealth of a nation consists in the whole annual produce of its land and labor, Smith opposes all such restraints and with them the protection of monopolies. He advocates free trade and the free competition of producers within a country as well as between domestic and foreign producers on the ground that consumption is the sole end and purpose of all production and the interest of the producer ought to be attended to only so far as it may be necessary for promoting that of the consumer. But in the mercantile system, Smith claims, the interest of the consumer is almost constantly sacrificed to that of the producer. A *laissez-faire* economy he thinks not only reverses this situation but also by preferring more consumable commodities to more gold and silver tends to increase the real not the artificial wealth of a nation.

Marx also criticizes the mercantilist error but in terms of his theory that since the production of surplus value is the chief end and aim of capitalist production, the greatness of a man's or a nation's wealth should be measured not by the absolute quantity produced

but by the relative magnitude of the surplus value.

Surplus value cannot be produced by exchange. Against the mercantilists who derived the excess of the price over the cost of production of the product from the act of exchange from the product being sold above its value, Marx quotes Mill's statement that profit arises not from the incident of exchange but from the productive power of labor and the general profit of the country is always what the productive power of labor makes it, whether any exchange takes place or not.

But this is not the whole picture according to Marx. Although it is impossible for capital or surplus value to be produced by circulation or the exchange of commodities, he also thinks it is impossible that outside the sphere of circulation a producer of commodities can without coming into contact with other commodity owners expand value and consequently convert money or commodities into capital. The two sides of the picture are brought together in Marx's view by the treatment of labor itself as a commodity and the buying and selling of labor power in the open market.

THE DISTINCTION BETWEEN REAL wealth and money and the distinction between necessities and luxuries have more than economic significance. They are basic to the moralist's strictures concerning the desire for wealth, its place in the order of goods and the way it can be put to good use.

It is not only St. Paul who says that the love of money is the root of all evil. It is not only Christian theologians like Augustine and Aquinas who explain how lust of the eyes or covetousness is a capital sin and as such the principle of many other transgressions. As Marx points out, the Greeks also denounced money as subversive of the economical and moral order of things. In the passage in Sophocles' *Antigone* which he quotes, Creon declares, "Nothing so evil as money ever grew to be current among men. This lays cities low, this drives men from their homes, this trains and warps honest souls till they set themselves to works of shame; this still teaches folk to practice villainies and to know every godless deed."

Plato condemns the oligarchical state by

comparing it to the miser and money maker among men. Such a State, he says, aims to become as rich as possible—a desire which is insatiable. In the *Laus* the Athenian Stranger explains why the reasonable statesman should not aim to make the state for the true interests of which he is advising as great and as rich as possible: if he also desires to have the city the best and happiest possible for though each may be possible alone they are not possible together. It is impossible, he holds, to be good in a high degree and rich in a high degree at the same time.

What Plato says of the oligarch Marx says of the capitalist. He shares with the miser the passion for wealth as wealth. But Marx adds that which in the miser is a mere idiosyncrasy—in the capitalist the effect of the social mechanism of which he is but one of the wheels. Involved as he is by the system in the restless never-ending process of profit making, the individual capitalist like the miser exhibits this boundless greed after riches; this passionate chase after exchange value.

The root of the evil in the love of money—of gold, yellow, glittering, precious gold which Shakespeare calls the common whore of mankind—is the boundlessness of the lust. The hoarding of anything springs from an insatiable desire, but because money can be converted into every sort of commodity it is according to Marx the ideal object of hoarding.

The antagonism between the quantitative limits of money and its qualitative boundlessness, he writes, continually acts as a spur to the hoarder in his Sisyphus-like labor of accumulating.

In the light of such observations Marx cites with approval Aristotle's distinction between economic and chrematistic or what Aristotle differentiates as the two arts of wealth getting. Considering economics as the management of a household, Aristotle says that the art of acquisition which is a natural part of it must either find ready to hand or itself provide such things necessary to life and useful for the community of the family or state as can be stored. They are the elements of true riches for the amount of property which is needed for a good life is not unlimited. But there is another variety of the art of acquisition which

is commonly and rightly called an art of wealth getting and has in fact suggested that riches and property have no limit.

The two arts tend to become confused in men's minds. Some persons are led to believe Aristotle observes that getting wealth is the object of household management and the whole idea of their lives is that they ought either to increase their money without limit or at any rate not to lose it. The origin of this disposition in men is that they are intent upon living only and not upon living well and as their desires are unlimited they also desire that the means of gratifying them should be without limit. Even those who do aim at a good life seek the means of obtaining bodily pleasures and since the enjoyment of these appears to depend upon property they are absorbed in getting wealth and thus there arises the second kind of wealth getting.

Plato like Aristotle while admitting the service of retail trade in effecting the exchange of commodities condemns the tendency of its practitioners to make gains without limit. In the *Laus* furthermore he prohibits interest on loans and in the *Republic* he describes this form of money making as a process in which

men of business insert their sting—that is their money—into someone else who is not on his guard against them and recover the parent sum many times over multiplied into a family of children. This biological metaphor for making money out of money appears also in Aristotle. The term interest, he says, means the birth of money from money. Of all forms of money making this breeding of money is in his opinion the most unnatural.

Usury which makes a gain out of money itself Aristotle writes violates the natural object of money—intended to be used in exchange but not to increase at interest.

INTEREST AND USURY are not distinguished in the Old Testament. Take thou no usury of him or increase is the command in Leviticus. But this rule does not apply to the stranger.

Unto a stranger thou mayest lend upon usury Deuteronomy says but unto thy brother thou shalt not lend upon usury.

A theologian like Aquinas following both Scripture and Aristotle condemns for Christ

tians all interest as usury and Luther also appeals to pagan precept as well as to Scriptural warrant. The heathen were able by the light of reason to conclude that a usurer is a double dyed thief and murderer. Luther says in a passage which Marx quotes under the comment that the usurer is "that old fashioned but ever renewed specimen of the capitalist." Castigating his fellow-Christians for holding usurers in such honor that we fairly worship them for the sake of their money, Luther declares that whoever eats up robs and steals the nourishment of another, that man commits as great a murder (so far as in him lies) as he who starves a man or utterly undoes him. Such does a usurer.

It seems to be a later consequence of the Protestant reformation as Weber and Tawney point out that the exaction of interest for the loan of money or goods is defended and only exorbitant rates of interest are denounced as usurious. The signs of the change may be seen in Pascal's diatribe against the specious casuistry which tries to exempt some forms of interest taking from the charge of usury and also in the fact that Montesquieu attributes to the schoolmen who adopted from Aristotle a great many notions on lending upon interest the mistake of condemning it absolutely and in all cases. In his own opinion to lend money without interest is certainly an action laudable and extremely good but it is obvious that it is only a counsel of religion and not a civil law.

Montesquieu thinks a price for the use of money is necessary for the carrying on of trade. If a fair rate of interest is not allowed nobody will lend money or rather Montesquieu says because the affairs of society will ever make it necessary money lending will inevitably take the form of usury. Usury increases in Mohammedan countries he points out in proportion to the severity of the prohibition. The lender indemnifies himself for the danger he undergoes of suffering the penalty.

Smith agrees that prohibition instead of preventing has been found from experience to increase the evil of usury. A fair rate of interest is justified he thinks because as some thing can everywhere be made by the use of money something ought everywhere to be paid for the use of it. In countries where interest

is permitted the law in order to prevent the extortion of usury generally fixes the highest rate which can be taken without incurring a penalty. This rate ought always to be somewhat above the lowest market price or the price which is commonly paid for the use of money by those who can give the most undoubted security. Smith offers the British practice as a good example. Where money is lent to government at three per cent and to private people upon good security at four and four and a half the present legal rate five per cent is perhaps as proper as any.

Interest and profit while not the same in Smith's view are closely connected. As the revenue from land is rent from labor wages and that derived from stock by the person who manages or employs it is called profit interest is the compensation which the borrower pays to the lender for the profit which he has an opportunity of making by the use of the money. Part of that profit naturally belongs to the borrower who runs the risk and takes the trouble of employing it and part to the lender who affords him an opportunity of making this profit. Concerning interest as a derivative revenue Smith holds it to be a maxim that wherever a great deal can be made by the use of money a great deal will be commonly given for the use of it so that we may expect to find the usual market rate of interest to vary with the ordinary profits of stock.

THE THEORY WHICH PLACES wealth lowest in the order of goods determines its contribution to human happiness accordingly and leads to a disapproval of luxuries on the part of both the individual and society.

Riches are for the sake of the body as the body is for the sake of the soul. The latter are good writes Plato and wealth is intended by nature to be for the sake of them and is therefore inferior to them both and third in the order of excellence. Aristotle similarly orders wealth or external goods to health and other goods of the body as these in turn are subordinate to the virtues or goods of the soul and Hobbes in somewhat different terms holds that of all good those that are dearest to a man are his own life and limbs and in the next degree (in most men) those that concern con-



jugal affection and after them riches and means of living

While Aristotle admits that happiness requires some external prosperity he always adds that only a moderate amount of external goods is needed. Happiness whether consisting in pleasure or virtue or both he writes is more often found with those who are most highly cultivated in their mind and in their character and have only a moderate share of external goods than among those who possess external goods to a useless extent but are deficient in higher qualities. Aristotle praises Solon for telling Croesus one of the world's wealthiest men that happiness requires more than riches. The conversation is narrated by Herodotus.

What stranger of Athens Herodotus reports Croesus as saying "my happiness then valued so little by you that you do not even put me on a level with private men?" To which Solon replies "Croesus I see that you are wonderfully rich and the lord of many nations but he who possesses a great store of riches is no nearer happiness than he who has what suffices for his daily needs unless luck attends him and so he continue in the enjoyment of all his good things to the end of his life." Aristotle adds the further observation that one can with but moderate possessions do what one ought and that a good life requires a supply of external goods in a less degree when men are in a good state and in a greater degree when they are in a lower state.

Aquinas agrees with Aristotle so far as the happiness of the active life is concerned but he holds that wealth does not conduce to the happiness of the contemplative life rather is it an obstacle thereto. With regard to achieving the happiness of heaven in the life hereafter Aquinas not only thinks wealth an obstacle but he also explains why the religious orders take the vow of voluntary poverty. Man is directed to future happiness by charity he writes and in the attainment of the perfection of charity the first foundation is voluntary poverty whereby a man lives without property of his own.

The opinion that wealth is an obstacle or that it should be sought in moderation does not seem to be universally shared. As Herodotus, Plato and Aristotle report the prevalence in

the ancient world of the notion that "external goods are the cause of happiness" so Melville reflects that in modern society the urbane activity with which a man receives money is really marvellous considering that we so earnestly believe money to be the root of all earthly ills and that on no account can a moneyed man enter heaven. Ah! how cheerfully we consign ourselves to perdition! Marx quotes a still more extravagant claim. In a letter from Jamaica in 1503 Christopher Columbus exclaims "Gold is a wonderful thing! Whoever possesses it is lord of all he wants. By means of gold one can even get souls into Paradise."

Against Rousseau's attack upon opulence as the cause of civilization with all its miseries Dr Johnson rises in the defense of luxuries and the advantages of wealth. Rousseau's treatise on the inequality of mankind Boswell writes "was at this time a fashionable topic." It gave rise to an observation by Mr Dempster that the advantages of fortune and rank were nothing to a wise man. To this Dr Johnson replies "If a man were a savage living in the woods by himself this might be true but in civilized society external advantages make us more respected. Sir you may make the experiment. Go into the street and give one man a lecture on morality and another a shilling and see which will respect you the most."

And Sir he continues "if six hundred pounds a year procure a man more consequence and of course more happiness than six pounds the same proportion will hold as to six thousand and so on as far as opulence can be earned. Perhaps he who has a large fortune may not be so happy as he who has a small one but that must proceed from other causes than from his having the large fortune for *ceteris paribus* he who is rich in a civilized society must be happier than he who is poor."

On one occasion Dr Johnson seems to share Solon's view. When Boswell suggests that the proprietor of a great estate must be happy he exclaims "Nay Sir all this excludes but one evil—poverty. But for the most part his opinion is that it is in refinement and elegance that the civilized man differs from the savage and that it is right for every society to be as luxurious as it can be."

Many things which are false are transmitted from book to book he says in General Oglethorpe and gain credit in the world One of these is the cry against the evil of luxury Now the truth is that luxury produces much good You will hear it said very gravely Why was not the half guinea thus spent in luxury given to the poor? To how many might it have afforded a good meal Alas! has it not gone to the indolent poor whom it is better to support than the idle poor? You are much surer that you are doing good when you pay money to those who work as the recompense of their labor than when you give money in charity

And as to the rout that is made about people who are ruined by extravagance it is no matter to the nation that some individuals suffer When so much general productive exertion is the consequence of luxury the nation does not care though there are debtors in gaol

Dr Johnson's pronouncements may silence Mr Dempster and General Oglethorpe but not Smith or Marx To Smith spendthrift extravagance squanders wealth which might have been capitalized for productive purposes to Marx the multiplication of luxury products diverts labor power that is socially necessary for producing the means of subsistence into what Veblen later calls forms of conspicuous waste Not only in Marx's view can the capitalist system be charged with indifference as to whether its profits are made out of the production of luxuries or necessities but the workers on starvation wages engaged in the luxury trades constitute a signal indictment of the inequitable distribution of wealth

AS THE NEEDS OF THE individual are thought to set a natural limit to his acquisition of wealth or at least to provide him with a rational standard for stopping short of wanton luxuries when he seeks the decencies or amenities of life so the needs of society as a whole are thought to establish a criterion of justice in the distribution of wealth

God gave the world to men in common says Locke and the measure of property nature has well set by the extent of man's labor and the convenience of life No man's labor could subdue or appropriate all nor could his enjoyment consume more than a small part so

that it was impossible for any man this way to intrench upon the right of another who would still have room for as good and as large a possession (after the other had taken out his) as before it was appropriated Which measure did confine every man's possession to a very moderate proportion and such as he might appropriate to himself without injury to anybody in the first age of the world

This rule of property—that every man should have as much as he could make use of without prejudice or injury to others—worked well in the beginning when as Locke puts it all the world was America It would still hold in the world without straitening anybody Locke thinks since there is land enough in the world to suffice double the inhabitants had not the invention of money introduced (by consent) larger possessions and a right to them for gold and silver being relatively imperishable men can hoard excesses of them without appearing to waste them as they would if they amassed perishable commodities which they could not consume or use

It is not money but property itself which Rousseau claims to be the origin of inequality among men and of the inequitable distribution of wealth The first man who having enclosed a piece of ground bethought himself of saying *This is mine* and found people simple enough to believe him was the real founder of civil society Once established as a right property tends to expand The larger proprietors avoid the question Do you not know that numbers of your fellow creatures are starving for want of what you have too much of? Instead according to Rousseau they conceive the profoundest plan that ever entered the mind of man to protect their possessions against invasion or plunder They institute civil government ostensibly for the security of all but really to secure for themselves their property and power

Such a state or may well have been Rousseau writes the origin of society and law which bound new fetters on the poor and gave new powers to the rich which irretrievably destroyed natural liberty eternally fixed the law of property and inequality converted clever usurpation into unalterable right and for the advantage of a few ambitious individuals

subjected all mankind to perpetual labor slavery and wretchedness. Adam Smith seems to agree. Where there is no property, he says, or at least none that exceeds the value of two or three days labor, civil government is not so necessary. Civil government so far as it is instituted for the security of property is in reality for the defense of the rich against the poor or of those who have some property against those who have none at all.

But unlike Smith, Rousseau has an alternative to propose. Since it is plainly contrary to the law of nature that the privileged few should gorge themselves with superfluities while the starving multitude are in want of the bare necessities of life, he thinks it is one of the most important functions of government to prevent extreme inequalities of fortunes, not by taking a way wealth from its possessors but by depriving all men of means to accumulate it, not by building asylums for the poor but by securing the citizens from becoming poor.

THIS STATES AN END but not the means for achieving it. The problem of poverty is not so easily solved if it can be solved at all, once the right of property is admitted. Rousseau, for example, no less than Locke and others before him, affirms this right which, for Kant and Hegel later, is almost the whole substance of private or abstract right. The right of property, says Rousseau, is the most sacred of all the rights of citizenship and even more important in some respects than liberty itself. Yet it is difficult, he admits, to secure the property of individuals on one side without attacking it on another, and it is impossible that all the regulations which govern the order of succession, wills, contracts, etc., should not lay individuals under some constraint as to the disposition of their goods and should not consequently restrict the right of property.

To Hegel, poverty seems to be an inevitable consequence of property as war is an inevitable consequence of sovereignty, and in neither case can the cause be abolished. When the masses begin to decline into poverty, as they must, they can be supported from public funds and private charities, thus receiving subsistence directly, not by means of their work, or as an alternative, they might be given subsist-

ence indirectly through being given work. But Hegel adds, in this event the volume of production would be increased, but the evil consists precisely in an excess of production and in the lack of a proportionate number of consumers who are themselves also producers, and thus it is simply intensified by both of the methods by which it is sought to alleviate it. Hence Hegel concludes it becomes apparent that despite an excess of wealth, civil society is not rich enough to check excessive poverty and the creation of a penurious rabble. This inner dialectic of civil society thus drives it—or at any rate a specific civil society—to push beyond its own limits and seek markets and its necessary means of subsistence in other lands which are either deficient in the goods it has overproduced or else generally backward in industry.

Imperialism, according to Marx, will not long work as a cure for what Tawney later calls the sickness of an acquisitive society—the inner frustration which Marx sees manifested in recurring economic crises and depressions of greater and greater magnitude. Nor does he propose the abolition of all private property as the remedy for poverty when he calls for the expropriation of the expropriators. On the contrary, only the possession by each individual of an adequate supply of consumer goods can abolish poverty. Differentiating between individual and capitalist property according to its owners are or are not laborers, and according as it consists in consumable goods or the means of production, Marx would transfer the latter from private property to public ownership.

The socialist economy he outlines also includes abolition of property in land and application of all rents of land to public purposes, a heavy progressive or graduated income tax, abolition of all right of inheritance. It includes centralization of credit in the hands of the state by means of a national bank with State capital and an exclusive monopoly, and also centralization of the means of communication and transport. Last but not least, it includes equal liability of all to labor.

More radical than Marx's socialism is the communism Plato proposes in the *Republic*. Plato's aim is not to solve the problem of poverty or economic injustice. By abolishing

for his guardian class *all* private property he hopes that his guardians through sharing common possessions (including wives and children) will have no cause for rivalry dissension or personal ambition. Common possessions should mould them into a fraternity and free them from private interests to work for the common good. In this matter of property the condition of Plato's imagined guardians was not so different from that of Jesus' disciples as recounted in the Book of Acts or of the monastic orders whose vows include that of voluntary poverty.

Aristotle's criticisms of the arrangements for the guardian class in the *Republic* are largely directed against the community of women and children and the elimination of private property. Property, he says, should be in a certain sense common but as a general rule private for when everyone has a distinct interest men will not complain of one another and they will make more progress because everyone will be attending to his own business. He thinks it is clearly better that property should be private but the use of it common in the sense that its use have the common welfare in mind.

Not only does Aristotle defend private property on many counts but he objects to schemes for equalizing it such as Plato sets forth in the *Laws*. For one thing the legislator ought not only to aim at the equalization of properties but at moderation in their amount. Yet if the legislator prescribe this moderate amount equally to all he will be no nearer the mark for it is not the possessions but the desires of mankind which need to be equalized and this is impossible unless a sufficient education is provided by the laws.

Whether or not communism is desirable there are those who think it is impossible not so much on the level of the economic as on the level of the moral revolution for which Aristotle looks to education. The skeptic thinks human nature cannot be so transformed. It may be only in the twentieth century that the world is divided into two camps on this subject but the issue is as old as the western tradition. At its beginning Aristophanes expresses the skeptical position in a form that is still current. His *Ecclesiazusae* simply laughs at the idea that inequalities of property can ever be done away with—by law or by education.

## OUTLINE OF TOPICS

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| 2 The acquisition and management of wealth in the domestic and tribal community   |              |
| 3 The production of wealth in the political community   | 1053         |
| 3a Factors in productivity natural resources raw materials labor tools and machines capital investments   |              |
| 3b The use of land kinds of land or real estate the general theory of rent  |              |
| 3c Agricultural production the produce of land  |              |
| 3d Industrial production domestic guild and factory systems of manufacturing  |              |
| 4 The exchange of wealth or the circulation of commodities the processes of commerce or trade   | 1054         |
| 4a The forms of value the distinction between use value and exchange value  |              |
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| 4c Rent profit wages interest as the elements of price the distinction between the real and the nominal price and between the natural and the market price of commodities |              |

- 4d The source of value the labor theory of value
- 4e Causes of the fluctuation of market price supply and demand
- 4f The consequences of monopoly and competition
- 4g Commerce between states tariffs and bounties free trade

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## 5 Money

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- 5a The nature of money as a medium or instrument of exchange and as a measure of equivalents in exchange
- 5b Monetary standards the coining or minting of money good and bad money
- 5c The price of money the exchange rate of money as measured in terms of other commodities
- 5d The institution and function of banks monetary loans credit the financing of capitalistic enterprise
- 5e The rate of interest on money the condemnation of usury

## 6 Capital

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- 6a Comparison of capitalist production with other systems of production the social utility of capital
- 6b Theories of the nature origin and growth of capital stock thrift savings excesses beyond the needs of consumption expropriation
- 6c Types of capital fixed and circulating or constant and variable capital
- 6d Capital profits
  - (1) The distinction of profit from rent interest and wages
  - (2) The source of profit marginal or surplus value unearned increment and the exploitation of labor
  - (3) Factors determining the variable rate of capital profit
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- 6e The recurrence of crises in the capitalist economy depressions unemployment the diminishing rate of profit

## 7 Property

- 7a The right of property the protection of property as the function of government
- 7b Kinds of economic property
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- 7c The uses of property for production consumption or exchange
- 7d The ownership of property possession or title the legal regulation of property
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8b The division of common goods into private property factors influencing the increase and decrease of private property

8c The causes of poverty competition incompetence indigence expropriation unemployment the poverty of the proletariat as dispossessed of the instruments of production

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## 11 Economic determinism the economic interpretation of history

■ Economic progress advances with respect to both efficiency and justice

## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Iliad* bk 11 (265, 283) 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 1.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* bk 11 (265, 283) 12d.

**BIBLE REFERENCES.** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Leviticus* 7:45—(D) *II Esdras* 7:46.

**SYMBOLS.** The abbreviation esp. calls the reader's attention to one or more especially relevant parts of a whole reference. passim signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style. For a general guidance in the use of *The Great Ideas* consult the Preface.

- 1 The elements of wealth the distinction between natural and artificial wealth the distinction between the instruments of production and consumable goods

7 PLATO *Republic* bk 11 316c 318d

■ ARISTOTLE *Politics* bk 1 ch 10 449d 452d / *Rhetoric* bk 1 ch 5 [361a 4] 601d

19 AQUINAS *Summa Theologiae* ca. ART 1 II Q 2 A 1 AN and RE 3 615d 616

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- 2 The acquisition and management of wealth in the domestic and tribal community

7 PLATO *Republic* bk V 360c 365d / *Laws* bk III 664a 666a bk I 709a 710a bk XI 775d 778b

9 ARISTOTLE *Politics* bk 1 ch 3 13 446d 455a c passim esp. ch 3 [1233<sup>b</sup> 12 14] 447a ch 4 447b c ch 7 [1255<sup>b</sup> 3 -40] 449c ch 8 11 449d 453d bk 11 c 5 [164<sup>b</sup> 7] 459d bk III ch 4 [1277<sup>a</sup> 25] 474d

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18 AUGUSTINE *City of God* bk VIII ch 14 520a d

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38 MONTESQUIEU *Spirit of Laws* bk VII 50a b bk XVII 129d 132b bk XVIII 190a b bk XVIII 216a b bk XXV 1 225a 230d

38 ROUSSEAU *Inequality* 350a b / *Political Economy* 367a 368c

39 SUTHERLAND *History of Nations* INTRO 1b bk I 50a ch III 165b 167a bk V 309d 311c passim 383d 384d

- 40 GIBSON *Decline and Fall* 16c 17d 66d 67b 88d 90d passim 498a 501b passim esp 498b-c  
 41 GIBSON *Dcl n and Fall* 83a 86d 89d  
 43 MILL *Liberty* 319b d  
 44 B S VELL *Johnson* 147c 148b [fn 3] 274b 278a 280c 281 282a b 289c d  
 46 H GEL *Philosophy of Right* PART III par 170-17 60d 61a p 178 180 62 63c ADDITIONS 109 134c 114 135b c / *Philosophy of History* INTRO 194b-195 E RT III 289a b  
 49 DARWIN *Descent of Man* 324a c  
 50 MARK *Capital* 34c ii 163 -c 171d 172b 174d 175c  
 51 T LSTOY *War and Peace* BK V 211a 213a BK VII 275a 302d passim esp 275a 278 291a 292b 301b 302d BK XV 633a-d E ILOGUE I 650d 652 654a 655

### 3 The production of wealth in the political community

#### 3a Factors in productivity: natural resources, raw materials, labor, tools and machines, capital investments

- OLD T STAL EN *Proverbs* 6 6-II 12:24 13 4 II 14:23 20 4 24 3 34 28 19  
 6 HERODOTUS *History* BK II 51b-d K VI 194a  
 7 PLATO *Republic* BK II 316c 319a BK IV 342d 343a / *Critias* 482b-c 483b  
 9 ARISTOTLE *Politics* BK I CH 4 447b-c CH II 1 587a 331 453a  
 11 LUCRETIUS *Nature of Things* BK V [ 350-1353] 78c d  
 23 HO BE *Leviathan* PART II 124b-d  
 31 LOCKE *Civil Government* CH V SECT 32 44 32 34c  
 38 MONTESQUIEU *Spirit of Laws* BK XV 111b c BK XX 15 a d BK XX I 191a  
 38 ROUSSEAU *Inequality* 352a 353c / *Social Contract* BK I 404 BK III 415b 417a  
 39 SMITH *Wealth of Nations* I INTRO 1a BK I 8 b esp 5b 6a 8d 10b 27b 28 33 37b 106b-c K II 142d 151c esp 142d 146 148c 149a 155b 157b esp 156b c 158a 159a BK I 163a 165b esp 163a d 173b c BK V 243b d 244a  
 40 GIBSON *Decline and Fall* 367d 368  
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 50 MARX EN EL *Communist Manifesto* 425 B

#### 3b The use of land, kinds of land, or the best use of the general theory of rent

- 6 HERODOTUS *History* BK I 70b-c BK III 101d 102a

- 35 LOCKE *Civil Government* CH V SECT 32 44 32a 34c  
 38 MONTESQUIEU *Spirit of Laws* BK XIII 191 b  
 39 SMITH *Wealth of Nations* BK I 15a 16a 20b 23b esp 21 62a 77a BK II 121c 122c BK I 163a 181a c BK IV 243b d 244c 246d 247c  
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 44 BOSWELL *Johnson* 172c d  
 46 HEGEL *Philosophy of Right* PART I par 80 34a b  
 50 MARK *Capital* 37a 63a d 65c 66a

#### 3c Agricultural production: the production of land

- 6 HERODOTUS *History* BK I 43d 44b BK II 51d 66d 67a 67c d K III 112c BK IV 124b 128a b 154 d 158d  
 9 ARISTOTLE *Politics* BK I CH 8 [1256 15 88] 450a b  
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 35 LOCKE *Civil Government* CH V SECT 40-48 33d 35 p 33m  
 38 MONTESQUIEU *Spirit of Laws* BK XIII 96d 97b BK XIV 105a 105b-c BK XVIII 125a 126 K XXIII 101a b  
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 39 SMITH *Wealth of Nations* BK I 6d 8b 62a 110d passim BK II 157a b 162a d BK III 163a 170 esp 163a-c 175b 181a c passim BK IV 288c 299d  
 40 GIBSON *Decline and Fall* 21c 22c 367d 368a  
 43 FEDERALIST NUMBER 12 56b d  
 46 H GEL *Philosophy of Right* PART III par 103 68a-c ADDITIONS I 8 137b / *Philosophy of History* INTRO 195a b ART IV 352a  
 50 MARX *Capital* 10d 211 249a 250 298c 318b c 333c 333a c passim sp 335b 336a 343a c 368c 371c

#### 3d Industrial production: domestic guild and factory systems of manufacturing

- 38 MONTESQUIEU *Spirit of Laws* BK XIV 105 BK XXII 191a c  
 38 ROUSSEAU *Inequality* 365 366a  
 39 SMITH *Wealth of Nations* K I 3a 10b BK I 163a 165b c p 163a 173a 175b BK IV 189b d 288 299d  
 41 GIBSON *Decline and Fall* 314c 315b  
 46 H GEL *Philosophy of Right* PART I par 204 68c d pa 243 77b-c / *Philosophy of History* PART I 243d 244c ART IV 335 336c  
 50 MARK *Capital* 111c 146c p 149 d 157a 250 esp 157a 158a 164a 165c 175c 176a 184b-188 205 209a 226a 236 369c 371  
 50 MARX ENGELS *Communist Manifesto* 422d 423a



- 4 The exchange of wealth or the circulation of commodities the processes of commerce or trade
- 4a The forms of value the distinction between use value and exchange value
- 9 ARISTOTLE *Politics* BK I CH 9 [1257 6-41] 451a ■
- 35 LOCKE *Civil Government* CH V SECT 37 33 b SECT 46-51 35a 36a
- 39 SMITH *Wealth of Nations* BK I 12c d 13c
- 46 HEGEL *Philosophy of Right* PART I par 63 28b c par 80 34a PART III par 204 68c d
- 50 MARX *Capital* 13b 27c esp 13b 14c 37a 39c 60c 74c 76c 89c d 98a 100c 113d
- 4b Types of exchange barter economies and money economies
- 6 HERODOTUS *History* BK IV 158b c
- 7 PLATO *Republic* BK I 316c 319a / *Sophist* 555a ■
- 9 ARISTOTLE *Politics* BK I CH 9 450d 452b
- 35 LOCKE *Civil Government* CH V SECT 46-51 35a 36a
- 38 MONTESQUIEU *Spirit of Laws* BK IV 16d 17b BK XVIII 128a c BK XXII 174a b 176a c
- 39 SMITH *Wealth of Nations* BK I 10b 13a esp 10b 11s 13d 14a
- 40 GIBSON *Decline and Fall* 89b d
- 41 BOSWELL *Johnson* 383b
- 46 HEGEL *Philosophy of Right* PART I par 80 34
- 50 MARX *Capital* I 37c-42b 47a 52c 74c 75a
- 4c Rent profit wages interest as the elements of price the distinction between the real and the nominal price and between the natural and the market price of commodities
- 38 MONTESQUIEU *Spirit of Laws* BK XVII 176a 177a
- 39 SMITH *Wealth of Nations* BK I 13a 27b 62a 63a c 73a 74d BK II 121c d
- 42 HUNTINGTON *Science of Right* 425a
- 50 MARX *Capital* 27a c 42b 47a esp 44a b 45c 46 48b 49b 74d 77b 79b [fn 1] 153d 156c 265c 270d 271a 308b 310
- 4d The source of value the labor theory of value ■
- 35 LOCKE *Civil Government* CH V SECT 40 44 33d 34c
- 38 ROUSSEAU *Inequality* 353a
- 39 SMITH *Wealth of Nations* BK I 13a 16a 20b 23b 27b 37b 52b 62a passim
- 42 HUNTINGTON *Science of Right* 424b-425a
- 50 MARX *Capital* 13a 22a esp 15 16a 19a b 20d 21a 24c 25d 32d 33b 35d 36a [fn 1] 45c-46c 78c d 79a 84a ■ 89d 102b esp 89d 90a 91c d 93b 94a 152a 156d passim 188c 192c 217c d 264a 267d c p 266c d
- 4e Causes of the fluctuation of market price supply and demand
- 23 HOBBS *Leviathan* PART I 73b-c
- 38 MONTESQUIEU *Spirit of Laws* BK XXII 176a 177a
- 39 SMITH *Wealth of Nations* BK I 19d 20b 23c 27b 36c 37b 62d 63a 74d 110d esp 74d 77a BK IV 217a 220b
- 40 GIBSON *Decline and Fall* 656c
- 41 GIBSON *Decline and Fall* 593a ■
- 43 FEDERALIST NUMBER 11 53c 55d passim
- NUMBER 35 112a c passim
- 44 BOSWELL *Johnson* 172c d
- 50 MARX *Capital* 44c d 54a d 101c 102b 153d 156c 173c 174b 108c 199b 216a c 217c 256b 262a passim esp 258b c 258d 259b 265 276b c
- 51 TOLSTOY *War and Peace* BK XI 490a b BK XIII 573a b
- 4f The consequences of monopoly and competition
- 39 SMITH *Wealth of Nations* BK I 26b c 63d 64a 67b 68d 110d BK II 142d BK IV 263d 264b 272c 279b 281d 282a 287d 288c BK V 3 9d 330c 394c 395a
- 40 GIBSON *Decline and Fall* 659d 660a
- 50 MARX *Capital* 130c 154b 156d 174a c 237c d 248c d 261d 262a 270c 271c 292d 293a 308d 311b 373b 374a
- 50 MARX ENGELS *Communist Manifesto* 421c 422a
- 4g Commerce between states tariffs and boundaries free trade
- 5 ARISTOPHANES *Acharnians* 455a-469a c esp [719-999] 463c 466d
- 6 HERODOTUS *History* BK IV 158b-c
- 6 THUCYDIDES *Peloponnesian War* BK I 350d 351a 365b 384b
- 7 PLATO *Republic* BK II 316c 318a / *Letter* I BK XII 788d 789a
- 9 ARISTOTLE *Politics* BK I CH 9 [1257 21 41] 451a ■ BK III CH 1 [1280 36-3] 478a BK I CH 6 531b d / *Rhetoric* BK I CH 4 [1360 12 18] 600b c
- 23 HOBBS *Leviathan* PART II 119d 120c 124c d
- 38 MONTESQUIEU *Spirit of Laws* BK VIII 98b-99b BK XIX 143c 144b BK XX XVI 146a 173d BK XXII 177b 184b
- 38 ROUSSEAU *Social Contract* BK II 404a b
- 39 SMITH *Wealth of Nations* BK III 173b 175b BK IV 182b 279b esp 245d 246b 248b 252c 256a 266d BK V 320b 330b
- 40 GIBSON *Decline and Fall* 21c 23b 151d 655d 658b c p 657d 658b
- 41 GIBSON *Decline and Fall* II 222b-d 314c 315b 342c 343a 355c d 427c d
- 42 KANT *Judgment* 504a b
- 43 ARISTOTLE ■ CONFEDERATION IV [14 36] 5b-c VI [1 0-106] 6b IX [173 185] 7a [175 285] 8a

- 41 CONSTITUTION OF THE U.S. ARTICLE I SECT 8 [20 203] 13b SECT 9 [276-282] 13d & CT 10 [304 313] 14a
- 43 FEDERALIST NUMBER 4 35c 36a NUMBER 5 38b-c NUMBER 7 42d-43c NUMBER 11 12 53b-58d NUMBER 2 80d 81c NUMBER 35 112 113a NUMBER 41 135b-c NUMBER 42 137d 138c NUMBER 44 145b-c
- 44 BO WELL J. *Johnson* 171a b 281b-c
- 46 HEGEL *Philosophy of Right* PART III par 246-247 78a b par 339 110b / *Philosophy of History* PART I 243d 244c PART II 277b-c PART IV 368c
- 50 MARX *Capital* 67a 69a 113d 114a 218d 219a 221d 223a 372c 375c *passim*
- 50 MARX ENGELS *Communist Manifesto* 420a b 421a-c 428a b

## 5 Money

- 5a The nature of money as a medium or instrument of exchange and as a measure of quantities in exchange

- 7 PLATO *Laws* BK XI 774a
- 9 ARISTOTLE *Ethics* BK IV CH I [1119<sup>b</sup>26-27] 366b BK V CH 5 [1133 5<sup>b</sup>39] 380d 381c BK IX CH I 416b d-417c *passim* / *Politics* XI CH 9 450d-452b CH 10 [258 38<sup>b</sup>8] 452d
- 14 PLUTARCH *Lycurgus* 36a 37b
- 23 HEBER *Leviathan* ART II 126b-c
- 30 B CONE *New Atlantis* 201d 202a
- 31 SENECA *Ethics* PART IV A PENDIX XXVIII-XXIX 450a
- 35 LOCKE *Civil Government* CH V SECT 37 38 b SECT 46-50 35a d CH XVI SECT 184 68b-d
- 38 MONTESQUIEU *Spirit of Laws* BK XVI 128c K XXII 174a 175a
- 39 SMITH *Wealth of Nations* BK I 10b 11a BK I 121c 126d 139a b K IV 182b-192c
- 40 GIBSON *Decline and Fall* 89b d
- 41 KANT *Science of Right* 423d-425b
- 42 FEDERALIST NUMBER 2 56b-d
- 43 MILL *Utilitarianism* 462c-463a
- 46 HEGEL *Philosophy of Right* PART I par 80 34 ART III par 2 4 68c d par 299 99c 100b ADDITION 40 122d 123b 77 147d
- 50 MARX *Capital* 19a 30d esp 19 23a 25d 30a d 37c 79a esp 38c 39 39d-44b 40b-51 60c 61c-62b 71d 73d, 77 78a

- 5b Monetary standard the counting or minting of money good and bad money

- 9 ARISTOTLE *Politics* BK I CH 9 [257 31<sup>a</sup>-41] 451b [257<sup>b</sup>2 23] 451d / *Athenian Constitution* CH 10 556d 557a
- 11 PLATARCH *Lycurgus* 36 37b / *Lysander* 361a d
- 23 HEBER *Leviathan* PART II 126b d
- 38 MONTESQUIEU *Spirit of Laws* K XXII 174b-175 177b-182
- 38 ROUSSAU *Political Economy* 382d 383a

- 39 SMITH *Wealth of Nations* BK I 10b 12c 16d 20b BK II 124d 142d 147a-c BK IV 182b-192c
- 40 GIBSON *Decline and Fall* 89b d 127a-c
- 41 GIBSON *Decline and Fall* 749d [n 49]
- 43 ARTICLES OF CONFEDERATION IX [275 279] 8a [350-367] 8c d
- 43 CONSTITUTION OF THE U.S. ARTICLE I SECT 8 [ 7 12] 13b SECT 10 [ 96-300] 14a
- 43 FEDERALIST NUMBER 42 138d NUMBER 44 144b d
- 46 HEGEL *Philosophy of History* PART II 277b c
- 50 MARX *Capital* 43b-44a 44d-45c 52c 57c 58a 60c 66d 67b [fn 3]
- 51 TOLSTOY *War and Peace* BK XIII 574b EPILOGUE I 680 b

- 5c The price of money the exchange rate of money as measured in terms of other commodities

- 38 MONTESQUIEU *Spirit of Laws* BK XXII 175c 182c
- 38 ROUSSAU *Political Economy* 383b-c
- 39 SMITH *Wealth of Nations* BK I 12b-c 14d 20b 77a 109b BK IV 203 204c
- 42 KANT *Science of Right* 424a-425b
- 43 FEDERALIST NUMBER 79 233d 234a
- 43 MILL *Utilitarianism* 462c-463a
- 50 MARX *Capital* 40c-47a esp 41a-42a 44b d 54a d 57d 58b [fn 3] 59b-60c 276b-c
- 51 TOLSTOY *War and Peace* BK XI 574b EPILOGUE I 680a b

- 5d The institution and function of banks monetary loans credit the financing of capitalistic enterprise

- 6 HERODOTUS *History* BK I 77d 78a
- 9 ARISTOTLE *Ethics* BK IX CH I [1164<sup>b</sup>13 22] 417
- 15 TACITUS *Annals* BK VI 90a-c, BK XI 103c
- 38 MONTESQUIEU *Spirit of Laws* BK XX 149a b BK XXI 173a BK XXII 179c 180 182c 183a b
- 39 SMITH *Wealth of Nations* BK II 124d 142d 151 155b BK IV 204b 209a c BK V 404d 405a
- 43 FEDERALIST NUMBER 30 103a b
- 50 MARX *Capital* 62d 66c 309a 310d 374a 375

- 5e The rate of interest on money the condemnation of usury

- ODD TESTAMENT *Exodus* 22:25 / *Leviticus* 25 35 37 / *Deuteronomy* 23 19- 24 0-13 / *Nehemiah* 5 1-2 -(D) 11 *Ezra* 5 1-12 / *Psalms* 15 5 -(D) *Psalms* 4 5 / *Psalms* 28 8 / *Jeremiah* 5 5 -(D) *Jeremiah* 5 10 / *Ezekiel* 8 4 2 esp 18 3 18 3 8 17 12 -(D) *Ezekiel* 8 4-21 esp 18 8 18 13 18 7 22 1
- 7 PLATO *Republic* BK XVI 408c d / *Laws* K V 694 d BK XI 775 d

(5) Money 5e The rate of interest on money the  
condemnation of usury)

- 9 ARISTOTLE *Politics* BK I CH 10 [1258 38 b8]  
452d  
14 PLUTARCH *Marcus Cato* 287c d / *Lucullus*  
409b d  
15 TACITUS *Annals* BK VI 90a ■ BK XI 103c  
20 AQUINAS *Summa Theologica* PART II Q 105  
A 2 REP 4 309d 316a A 3 RE 3 316a 318b  
21 DANTE *Dine Comedy* HELL XI [91 115]  
16a b XVII [34 75] 24b c  
26 SHAKESPEARE *Merchant of Venice* ACT I SC  
III 409c 411b esp [41-103] 410a c  
33 PAUL PROTERIAL *Letters* 55a 57a  
38 MONTESQUIEU *Spirit of Laws* BK V 29c BK  
XII 92d 93c BK XXI 169a 170b BK XXII  
175d 176 183a 187a ■  
39 SMITH *Wealth of Nations* BK I 22b d 37b  
41d BK II 154c 155a BK V 404d 405a  
40 GIBSON *Decline and Fall* 498c  
41 GIBSON *Decline and Fall* 90d 91a  
44 BOSWELL *Johnson* 304b c 409a b  
46 HEBEL *Philosophy of Right* PART IV 353b c  
50 MARX *Capital* 77c 78c 252b 293a d [fn 1]  
371c 372c

6 Capital

6a Comparison of capital list production with  
other systems of production the social  
utility of capital

- 38 MONTESQUIEU *Spirit of Laws* BK XIII 96d  
97a  
39 SMITH *Wealth of Nations* INTRO 1d BK II  
148c 149a 155b 162d A III 165b 181a c  
passim BK IV 239d 240a  
40 GIBSON *Decline and Fall* 17b c 144b 619b-  
620c 628c d  
46 HEBEL *Philosophy of Right* PART II par 199  
67c / *Philosophy of History* PART IV 335a 336c  
49 DARWIN *Descent of Man* 324a b  
50 MARX *Capital* 33b 37 95a b [fn 1] 104d  
105 113c 115c 150b 160d 164a esp 160d  
161b 163a-c 171d 176a 239d 240c 266c  
267c 281 ■ 295d 296a 354c 304a passim  
377 383d  
50 MARX ENGELS *Communist Manifesto* 419d  
423a 428d-429c

6b Theories of the nature origin and growth  
of capital stock thriftings excesses  
beyond the needs of consumption ex  
propriation

- 35 LOCKE *Civil Government* CH V 30b 36a  
39 SMITH *Wealth of Nations* BK I 117a c 142d  
151c  
46 HEBEL *Philosophy of Right* PART III par 170  
60d p r 190-2 8 67c 69c  
50 MARX *Capital* I 69b 74 79a 89d 94c esp  
93d 94a 101a b 105b [fn 1] 221c d 279a  
377a esp 279a 282a 286a 288a 289b 290c  
296a 301b-302d 319b-d 354a 355d 372a d

6c Types of capital fixed and circulating or  
constant and variable capital

- 39 SMITH *Wealth of Nations* BK II 118a 121c  
122b 124c 151c 162d passim  
50 MARX *Capital* 96a 102b esp 101a-c 280d  
282a 291c d 302d 303b 307c 309b 311c  
312c

6d Capital profits

6d(1) The distinction of profit from rent in  
interest and wages

- 39 SMITH *Wealth of Nations* BK I 20b 23b esp  
22d 23b 28a 47c 48a 109d 110d  
50 MARX *Capital* 255a 256a 301b-302d

6d(2) The source of profit marginal or sur  
plus value unearned increment and the  
exploitation of labor

- 39 SMITH *Wealth of Nations* BK I 20b 21c 27b  
28a 109d 110d  
46 HEBEL *Philosophy of Right* PART III par 243  
77b c  
50 MARX *Capital* 69a 275c esp 71a 79a 89c  
96a 99d 100b [fn a] 100a 101b 104b 105c  
112c 113c 115c 117c 129b 154d 156d 192d  
194b 197a 200a 251c 256 263c d 271b c  
285c 286a 314d 315c 375c 376c

6d(3) Factors determining the variable rate of  
capital profit

- 39 SMITH *Wealth of Nations* BK I 6d 8b 21a b  
37b 62a 110b d BK II 151c 155b esp 153a b  
154b ■ 155b 162d passim  
50 MARX *Capital* 102b 113c 146c 151a c 255b-  
263d 296b 301b

6d(4) The justification of profit the reward of  
enterprise and indemnification for risk  
of losses

- 25 MONTAIGNE *Essays* 42a b  
33 PAUL PROTERIAL *Letters* 55a 57a  
39 SMITH *Wealth of Nations* BK I 20d 21c BK II  
142d 151c passim 155b 162d passim esp  
162a b  
44 BOSWELL *Johnson* 279b 280a

6e The recurrence of crises in the capitalist  
economy depressions unemployment  
the diminishing rate of profit

- 50 MARX *Capital* 11d 64c d esp 64d [fn 2 3]  
100a 116c d 222d 225d 311c 316d esp 312b  
313d 314a 315c 316a 319a 330d 333c  
50 MARX ENGELS *Communist Manifesto* 422a ■

7 Property

7a The right of property the protection of  
property as the function of government

- 20 AQUINAS *Summa Theologica* PART I II Q 94  
A 5 REP 3 224d 225d  
35 LOCKE *Tolerance* 16a c / *Civil Government*

- CH V 30b 36a esp SECT 26 30d C I VII SECT 87-94 44a-46c CH IV 53c 54d esp S CT 123 53c d CH XI SECT 137 140 56d 58a CH XV CT 173 174 65c d
- 36 S ERNE *Treatise on the Shady* 310 311a
- 38 MONTESQUIEU *Spirit of Laws* BK XII 86c d BK XVI 221c d
- 38 ROUSSEAU *Equality* 348b 353b 358c passim / *Political Economy* 377c d / *Social Contract* BK I 393b 394d
- 38 SMITH *Wealth of Nations* BK V 309a 311c
- 40 GIBSON *Decline and Fall* 486c d
- 41 GIBSON *Decline and Fall* 86d 87c
- 42 KANT *Science of Right* 408c-409c 411c-413b esp 412c 413b 414a c 416a b 441d-443b
- 43 CONSTITUTION OF THE U S AMENDMENTS V [64]-64[8] 17c XIV ZCT I [748 750] 18c
- 43 FEDERALIST NUMBER 10 50b d NUMBER 54 171b-c
- 43 MILL *Representative Government* 366c d 422b
- 44 BOSWELL JOHNSON 124b-c 204b-c 222d 223a 225-c 275d
- 46 HEGEL *Philosophy of Right* PART I par 40 21d 22c par 44 46 23c 24a par 50 25a par 66 29a-c par 71 31b c PART III par 08 69c par 230 75c ADDIT VS 6-7 121a b 30 121c / *Philosophy of History* PART IV 364d
- 50 MARX *Capital* 83d 84a c 174b 288c d
- 50 MARX ENGELS *Communist Manifesto* 425c 427b
- 51 TOLSTOY *War and Peace* BK XIII 572d 573b
- 51 FRUD *Civilization and Its Discontents* 787d 788b

## 7b Kind of economic property

## 7b(1) Chattel slaves : property

- 5 ARISTOTLE *Nicomachean Ethics* [507 5 6] 635 b
- 7 PLATO *Lysis* S BK IV 709a 710a
- 9 ARISTOTLE *Politics* BK I II 2 [1252a-26-13] 445 d II 3 4 446d-447 CH 8 [1256 I 3] 449d K VII CH 8 [1328 35 38] 532c CH I [133 25 34] 534d / *Rhetoric* I CH 5 [1361 2 4] 601c
- 14 PLUTARCH *Moral Essays* 278d 279a 287b d / *Cassius* 439 c
- 20 AQUINAS *Summa Theologiae* PART I Q I 5 44 45 2 d RE 4 318b 321a
- 23 HOBBS *Leviathan* I PART II 110b 111 PART 261d 262a
- 38 MONTESQUIEU *Spirit of Laws* BK XV 109a d 111d 112c
- 39 SMITH *Wealth of Nations* BK III 167a d BK IV 239c 240a 253 254a
- 40 GIBSON *Decline and Fall* 16c 17d 144b 620a E 628c d
- 41 GIBSON *Decline and Fall* 404d
- 43 FEDERALIST NUMBER 42 137b c NUMBER 54 170b 171b
- 44 BOSWELL JOHNSON 364 b
- 46 HEGEL *Philosophy of Right* PART I par 48 24b-c p 66 29a

- 50 MARX *Capital* 113c 114a 128d 129a 266b II 267c 283c d 354c 355d

## 7b(2) Property in land

- OLD TESTAMENT *Leviticus* 25:23 24 / *Deuteronomy* 19 4 27 17
- 7 PLATO *Lysis* BK V 695c 696a
- 9 ARISTOTLE *Politics* BK II CH 9 [1270 15-16] 466b-c BK V CH 4 [1319 6-19] 522c d BK VII CH 10 [1329b 37 1330a 25] 534b d / *Rhetoric* BK I CH 5 [1361 12 14] 601
- 15 TACITUS *Annals* BK XIII 140b-c
- 23 HOBBS *Leviathan* II PART II 124d 125b
- 35 LOCKE *Civil Government* CH V SECT 31 34 31d 32c
- 38 MONTESQUIEU *Spirit of Laws* BK VI 33b
- 38 ROUSSEAU *Equality* 353a / *Social Contract* BK I 393d 394d
- 39 SMITH *Wealth of Nations* BK III 163a 170c
- 40 GIBSON *Decline and Fall* 198a b 618d 619c
- 41 GIBSON *Decline and Fall* 87a-c
- 42 KANT *Science of Right* 411c-412c
- 44 BOSWELL JOHNSON 274c 278a
- 46 HEGEL *Philosophy of History* INTRO 195a b PART I 226d 227b PART II 277b-c PART III 295d 297a
- 50 MARX *Capital* 355d 364a 368c 369a
- 51 TOLSTOY *War and Peace* BK V 211a 213a I

## 7b(3) Property in capital goods and in monetary wealth

- 9 ARISTOTLE *Politics* BK I CH 9-10 450d 452d / *Rhetoric* K I CH 5 [1361 I 14] 601c
- 38 MONTESQUIEU *Spirit of Laws* BK VI 33b
- 50 MARX *Capital* 60d 62d esp 61d 62a 69b 150a 151a c 279a 290d esp 279a 287a b 289d 290 371c 372b

## 7c The use of property for production consumption or exchange

- 9 ARISTOTLE *Politics* I CH 4 [1254 I 7] 447c CH II 1 449d 453d / *Rhetoric* BK I CH 5 [1361 2-24] 601 d
- 35 LOCKE *Civil Government* CH V 30b-36a
- 39 SMITH *Wealth of Nations* BK II 118a 121c 142d 151c esp 150b 151 155b 162d K III 165 166a 176a 177d BK V 351a-c
- 42 KANT *Science of Right* 411c-413b esp 412c 413b
- 46 HEGEL *Philosophy of Right* PART I par 59-61 27a c ADDIT ON 39 122d
- 50 MARX *Capital* I 30c 32c 38-40a 70d 72 89a b 282b 83c 289d 290d 291a 296a esp 291a b 293c 294a

## 7d The ownership of property possession or title the legal regulation of property

- OLD TESTAMENT *Exodus* 2 15 21 16-19 33-36 22 I 5 23 4-5 / *Leviticus* 6:2-5 9 II 13 24 18 2 25 13 14 5 34 47-54 / *Deuteronomy* 5 19 19 14 22 4 47 7 17 / *Ruth* 4 1-8 / *Jeremiah* 3 6-12—(D) *Jeremiah* 3 32 6-12

(7) *Property 7d The ownership of property possession or title the legal regulation of property*

NEW TESTAMENT *Matthew* 19 18 / *Mark* 10 19 / *Luke* 18 20 / *Romans* 13 9

7 PL TO LAU BK VIII 738d 740d

9 ARISTOTLE *Politics* BK II CH 5 458a 460a CH 7 461d 463c BK VI CH 4 [1319<sup>b</sup>-19] 522c d

15 TACITUS *Annals* BK XIII 140b c

20 AQUINAS *Summa Theologiae* PART I II Q 94 A 5 REP 3 224d 225d

21 HOBBS *Leviathan* PART I 86b 91a b PART II 124d 125c

35 LOCKE *Civil Government* I CH XVI SECT 176 66a b SECT 180 184 67b 68d SECT 192 194 69c 70a

36 STERNE *Tristram Shandy* 210b 213a 310a 311a

38 MONTESQUIEU *Spirit of Laws* BK XII 86c d

38 ROUSSEAU *Inequality* 348b 353a 356a / *Political Economy* 377b d / *Social Contract* BK I 393b 394d

39 SMITH *Wealth of Nations* BK III 165b 175b

41 GIBSON *Decline and Fall* 86d 87c 89d 90c 404d

42 KANT *Science of Rights* 404a 407a 408b 409d 410d 412c 415c 422b d 425b 426b 428a 431a 432a 441d-443b

43 CONSTITUTION OF THE U.S. AMENDMENTS V [645-648] 17b XIV SECT I [748-750] 18c

43 FEDERALIST NUMBER 7 41d-42d NUMBER 43 139d 140a

46 HEGEL *Philosophy of Right* PART I par 45 23c d par 50 25a par 55 25d 26a par 64-65 28c 29a par 69 30a 31a par 80 33d 34a PART III par 218 72 d par 23 75c ADDITIONS 26 121a b 30 121c 34 122a b / *Philosophy of History* INTRO 195a b RT I 226d 227b PART III 288c 289a 310c

48 MILLER *Moby Dick* 292a 297a

50 MARX *Capital* 37c d 287b-290a esp 288b d 50 MARX ENGELS *Communist Manifesto* 425d 427b 428d-429a

51 TOLSTOY *War and Peace* BK XIII 572d 573b

54 FOUCAULT *Discipline and Punish* 787d 788b

7d(1) Private ownership partnerships joint stock companies

■ PLATO *Republic* K III 341c d BK V 364c 365d / *Laws* BK V 695a c

9 ARISTOTLE *Politics* BK II CH 5 458a 460a CH 7 461d-463c BK VII CH II [1329<sup>b</sup>-37] 1330 331 534b d

20 AQUINAS *Summa Theologiae* II RT I II Q 94 A 5 REP 3 224d 225d

23 HOBBS *Leviathan* PART II 150a

38 MONTESQUIEU *Spirit of Laws* K XXVI 221c 222a

38 ROUSSEAU *Emile* 348b

39 SMITH *Wealth of Nations* BK V 319d 331d

42 KANT *Science of Rights* 441d-443b

43 MILL *Liberty* 319d 320a

46 HEGEL *Philosophy of Right* PART I par 46 23d 24a

50 MARX *Capital* 89a b

50 MARX ENGELS *Communist Manifesto* 425d 426a 426c d

7d(2) Government ownership eminent domain

7 PLATO *Laws* BK V 691b 696d

9 ARISTOTLE *Athenian Constitution* CH 47 par 2 574c

23 HOBBS *Leviathan* PART II 125c d 150a

38 MONTESQUIEU *Spirit of Laws* BK XXVI 221c 222b

38 ROUSSEAU *Political Economy* 378c 379d

39 SMITH *Wealth of Nations* BK V 357b d 361d 42 KANT *Science of Rights* 441d-443b

43 CONSTITUTION OF THE U.S. AMENDMENTS V [645-648] 17b XIV SECT I [748-750] 18c

46 HEGEL *Philosophy of History* PART III 296b-297a PART IV 335c d

50 MARX ENGELS *Communist Manifesto* 428d 429a

7e The inheritance of property laws regulating inheritance

OLD TESTAMENT Numbers 27 8 II 36-(D) Numbers 27 7 II 36 / *Deuteronomy* 21 15 17 / *Ruth* 4 1-8 / *Jeremiah* 32 6-12-(D) *Jeremiah* 32 6-12

5 ARISTOPHANES *Birds* [1641 1670] 562b-c

7 PLATO *Laws* BK XI 775d 779b

9 ARISTOTLE *Ethics* K VIII CH 10 [1160<sup>b</sup>] 1161<sup>a</sup> 413a b / *Politics* BK II CH 9 [270 15-26] 466b-c

23 MACHIAVELLI *Prince* CH XVII 24b c

25 MONTAIGN *Essays* 189c 190d

29 CERVANTES *Don Quixote* PART I 148b-149a

30 BACON *New Atlantis* 209d

35 LOCKE *Civil Government* CH XVI SECT 181 184 67c 68d SECT 190-194 69b 70a passim

38 MONTESQUIEU *Spirit of Laws* BK V 19d 20d 21c 27d 28a BK XVIII 129d 132a BK XX I 216b c 217b BK XX II 225a 230d

38 ROUSSEAU *Inequality* 357b / *Political Economy* 367b d 377d 378a

39 SMITH *Wealth of Nations* BK III 165b 173b 179b 180c BK IV 246d 247c

40 GIBSON *Decline and Fall* 66d 67b 619c

41 GIBSON *Decline and Fall* 83a 87d 89d

42 KANT *Science of Rights* 426b-428a esp 427c 428a 441d-443b esp 442c

44 BOYLE *Journal* 203c d 204c 205c 274b-278a esp 277d [in I] 280c 281a 282a b 289 d

46 HEGEL *Philosophy of Right* PART III par 175 180 62a 63c / *Philosophy of History* PART II 277b PART III 289a b

49 DARWIN *Descent of Man* 324a-c

- 51 TOLSTOY *War and Peace* BK I 26a 30a 38d  
41a 45b-47b BK VIII 306a 309d 310d  
E LOGUE I 650d 652a

## 8 The distribution of wealth the problem of poverty

- 7 PLATO *Laus* BK V 691d 696d BK VIII 738d 741d  
9 ARI TOTLE *Polit cs* BK II CH 9 [1270 15 b6]  
466b c / *Athenian Constitution* CH III 557b 558a  
15 TA ITU *Analysis* K II 31a b  
23 HO S *Leviathan* PART I 124d 126a  
35 LO KE *Civil Government* CH V 30b 36a  
36 SWIFT *Gulliver* ART IV 154b 155b  
38 ROUSSEAU *Political Economy* 375b d / *Social Contract* BK II 405b-c  
39 SMITH *Wealth of Nations* BK I 20b 63a c  
K I 121c d 142d 151 esp 150b 151  
40 CIBBON *Decline and Fall* II 22c 89d 486c d 501c  
41 MILL *Liberty* 309a / *Representative Government* 366c 367a / *Utilitarianism* 472d 473a  
44 BOSWELL *Johns* 124d 125c  
46 HEGEL *Philosophy of Right* PART I par 49 24c 25a P RT III par 244 245 77c d ADDITION 29 121c 49 140d 141a / *Philosophy of History* INTRO 193b ART I 226d 227b P RT II 263b d 277b c  
49 DARWIN *Descent of Man* 324a-c  
50 MARX *Capital* I 34d 35c 218d 219d 261d 262a 301b 302d 319d 321b 354b c  
50 MARX ENGEL *Communist Manifesto* 425d 426d 428d 429a  
52 DOSOJKY *Brothers Karamazov* BK VI 165b 166a  
41 FREUD *Civilization and Its Discontents* 787d 788b [fn 3]

## 8a The sharing of wealth good and lands held in common public ownership of the means of production

- NEW TESTAMENT *Acts* 2 44 47 432-5 II  
5 ARISTOPHAN *Eccluzus* 615a 628d esp [395 476] 619b 620a [553-7 9] 621b 623c  
7 PLATO *Republic* K 341c d BK V 364c 365d / *Critias* 480a 481a  
9 ARISTOTLE *Ethics* K V H 9 411d 412 / *Politics* BK II CH I [26 30-6 7] 455b d CH 5 458a 460a CH 7 461d 463c CH [272 12 2] 468b c BK III C II 10 [1281 13 23] 478d 479a K V CH 8 [13 9 5 17] 511b BK VI H 10 [13 0<sup>b</sup> 37-330<sup>a</sup> 33] 534b d / *Athens and Constitution* CH II par 2 557a b CH 12 par 3 557c d  
14 PLUTARCH *Lycurgus* 36a 37b / *Numa Pompilius* 58a d / *Agamemnon* 648b d 656d / *Cleomenes* 657a 663c / *Tiber Gracchus* 674c 681a c  
15 TACITUS *Annals* K X 140b-c / *Historiae* BK IV 286 287a  
19 AQUINAS *Summa Theologiae* P RT Q 98 A I RE 3 516d 517c

- 20 AQUINAS *Summa Theologiae* PART II Q 94 A 5 R 3 224d 225d  
23 HOBBS *Leviathan* PART I 94d  
26 SHAKESPEARE *2nd Henry VI* ACT IV SC II [68-8] 58c  
31 SPINOZA *Ethics* PART IV A PENDIX XVII 448d  
35 LOCKE *Civil Government* CH V SECT 24 29 30b 31c SECT 34 32b c  
38 MONTESQUIEU *Spirit of Laws* BK IV 16a 17b  
40 GIBBON *Decline and Fall* 197b c  
44 BOSWELL *Johnson* 222d 223a  
46 HEGEL *Philosophy of Right* P RT I par 46 23d 24a par 64-65 28c 29a PART III par 170-17 60d 61a ADDITIONS 27 121b / *Philosophy of History* PART I 226d 227b 240d 241a  
50 MARX *Capital* 34d 35a 163a d 174d 175c 377c 378d  
50 MARX ENGEL *Communist Manifesto* 425d 426a

## 8b The division of common goods into private property factors influencing the increase and decrease of private property

- OLD TESTAMENT *Numbers* 26 52-56 33 50-54  
6 HEROTUS *History* BK II 70b c BK III 101d 102a  
9 ARISTOTLE *Politics* BK II CH 5 [263<sup>b</sup> 5-8] 458c BK VI CH 5 [1320<sup>a</sup> 29-37] 523d 524a  
15 TACITUS *Annals* BK I 31a b  
19 AQUINAS *Summa Theologiae* PART I Q 98 A CF 3 516d 517c  
20 AQUINAS *Summa Theologiae* PART II Q 94 A 5 R 3 224d 225d  
23 HO *Leviathan* ART II 124d 125b  
35 LOCKE *Civil Government* IV 30b 36a  
38 MONTESQUIEU *Spirit of Laws* K V 19d 21d BK XVIII 127c  
38 ROUSSEAU *Equality* 348b d 352a / *Social Contract* K I 393d 394d  
39 SMITH *Wealth of Nations* K I 20b 21c 27b 28a BK V 239 d A V 309a-c 311b-c  
41 GIBBON *Decline and Fall* 87a  
42 KANT *Science of Right* 414 415c 422b d 425b 426b 428 431a 432a  
46 HEGEL *Philosophy of Right* PART I par 46 23d 24a par 64-65 28c 29 PART III par 178 62a b par 237 76c ADDITIONS 27 121b  
50 MARX *Capital* 288b d 358a 361d 368c 369a 377 378d 383d

## 8c The causes of poverty competition in competition and expropriation unemployment the poverty of the proletariat as dispossessed of the instruments of production

- 14 PLUTARCH *Lycurgus* 36a 37b / *Lycurgus Numa* 62b-c / *Licillus* 409b d  
15 TACITUS *Historiae* BK I 194d 195a  
36 SMITH *Gulliver* P RT IV 154b-155b  
38 MONTESQUIEU *Spirit of Law* K X 11 A XXI 190a b 191b-c 192b 200a-c

(8) *The distribution of wealth the problem of poverty* 8c *The causes of poverty competition incompetence indigence expropriation on employment the poverty of the proletariat as dispossessed of the instruments of production*

- 38 ROUSSEAU *Inequality* 365c 366a / *Political Economy* 375b d / *Social Contract* bk iii 415b d  
 39 SMITH *Wealth of Nations* bk i 27b 37b esp 28a d 30b 31b bk iv 239c 240a  
 40 GIBSON *Decline and Fall* 501c d  
 44 BOSWELL *Johnson* 428b  
 46 HEGEL *Philosophy of Right* PART III par 195 66d 67a par 240-241 76d 77a par 243 44 77b c ADDITIONS 148 149 140c 141a  
 50 MARX *Capital* 150b c 160d 162d 209c 225d esp 211a d 280c 286a esp 282b-c 283b d 285c 286a 288b d 303b 305a 307a c 315c 321b esp 319c d 325d 327b 349a 350a 354a 355d 357a 358a 360a 361c 364a ■ 370a 371c 375a b  
 50 MARX ENGELS *Communist Manifesto* 424d 425a 426c d

8d *Laws concerning poverty the poor laws the dole*

- OLD TESTAMENT *Exodus* 23 ii / *Leviticus* 19 9-10 23 22 25 25 35-34 / *Deuteronomy* 5 7 ii 24 17 22 26 12 13  
 5 ARISTOTLES *Ec. i* 1266 619b c  
 7 PLATO *Republic* bk v 342a 344a / *Laws* bk v 693a-c bk xi 783b  
 9 ARISTOTLES *Politics* bk vi ch 5 [1320<sup>a</sup> 29-315] 523d 524b  
 11 PLUTARCH *Solon* 68d 70c / *Populicola Solon* 87a / *Pericles* 127a 128a / *Lucullus* 409b d / *Caesar* 581c d  
 15 TACITUS *Annals* bk ii 32b d  
 23 HOBBES *Leviathan* p 142b c 157a 448d  
 31 SPINOZA *Ethics* PART IV A P 112c xiii 448d  
 38 MONTESQUIEU *Spirit of Laws* bk xiii 199b 200a c  
 38 ROUSSEAU *Political Economy* 375b-d  
 39 SMITH *Wealth of Nations* bk i 59a 61b bk iv 200c 201a  
 40 GIBSON *Decline and Fall* 175c d 501d 502b  
 42 HANT *Science of Right* 443b 444a  
 43 MILL *Liberty* 322a d esp 322c d / *Representative Government* 383d 384a  
 44 BOSWELL *Johnson* 442d-443a  
 46 HEGEL *Philosophy of Right* PART III par 245 77c d  
 50 MARX *Capital* 211d [fn 3] 358a b esp 358b d [fn 5] 364a 366

9 *Political economy the nature of the science of economics*

- 9 ARISTOTLES *Ethics* bk i ch i 2 339a d passim esp ch i [1094<sup>b</sup> 7-9] 339a / *Politics* bk i

ch ii [1256<sup>b</sup> 27 39] 450c d ch io [12 8 19-3<sup>e</sup> 452b-c

- 38 ROUSSEAU *Political Economy* 367a 385a c  
 39 SMITH *Wealth of Nations* INTRO 12 2a c ■ iv 182a  
 44 BOSWELL *Johnson* 281b c  
 40 HEGEL *Philosophy of Right* PART III par 19 65d 66a ADDITIONS 120 136b ■  
 50 MARX *Capital* 6a d ■ 11d passim 33a 37 esp 36a ■ [fn 1] 178d 179c 305a c [fn 2]

9a *Wealth as an element in the political common good*

- 5 EURIPIDES *Phoenician Maidens* 628-551 382c d  
 5 ARISTOPHANES *Plutus* 629a 642d esp [41 618] 633d 636d  
 6 HERODOTUS *History* bk iv 314a c  
 6 THUCYDIDES *Peloponnesian War* bk i 352a b bk ii 396d 397b-c bk viii 569d  
 7 PLATO *Republic* bk iii iv 341c 344a bk v 364c 365d bk viii 405c 408a / *Cratylus* 485b c / *Lysis* bk iii 665b bk v 687d 688a 694a 695c bk viii 733b d  
 9 ARISTOTLES *Politics* bk i ch io [1258 19-31] 452b-c bk ii ch 7 [1267 18 36] 462d 463a ch 9 [1266<sup>b</sup> 13 1270<sup>b</sup> 6] 465d 466c [1271<sup>b</sup> 1] 467d bk iii ch 12 [1283 12 20] 481a b bk vii ch 2 [1324 8 10] 528a ch 4 [1325<sup>b</sup> 33 1326 4] 530a ch 5 6 530d 531d ch 8 532c 533a / *Rhetoric* bk i ch 4 [1359<sup>b</sup> 19-29] 599d 600  
 14 PLUTARCH *Lycurgus* 36a 37b 47d / *Lycurgus humilis* 62b c / *Coriolanus* 180b d / *Aristides* 18a c / *Cato* 291b 292b / *Lysander* 361a d / *Agis* 649b ■  
 15 TACITUS *Annals* bk ii 31a b bk iii 57b 58d bk xiii 140b c / *Historiae* bk i 232d 233a  
 23 MACHIAVELLI *Prince* ch xxi 32d 33a  
 23 HOBBS *Leviathan* INTRO 47a b PART II 124b 127a  
 38 MONTESQUIEU *Spirit of Laws* bk v 19a 21d 23a 25c bk vii 44a 48a bk xiii 96c bk xiv 146b 147d bk xvi 153c d 154b  
 38 ROUSSEAU *Equality* 325d 327c 328a 352a 355a passim 365c 366b / *Political Economy* 375b d 377b 385a c passim / *Social Contract* bk iii 415b 417a 421c d  
 39 SMITH *Wealth of Nations* bk i 27b 31b 33c 35c  
 40 GIBSON *Decline and Fall* 89 d 456d 457a ■ 498 501d 642a ■ 655d 656  
 42 HANT *Science of Right* 443b d  
 43 FEDERALIST NO 28 21 79b 80a  
 44 BOSWELL *Johnson* 124d 125c 172b 173a 210d 211b 281b  
 46 HEGEL *Philosophy of Right* ADDITIONS 143 139d 140a / *Philosophy of History* INTRO 193b c ■ PART II 263b d  
 49 DARWIN *Descent of Man* 324 d  
 50 MARX *Capital* 292d 320b 321b 374a-c  
 51 TOLSTOY *War and Peace* bk xiii 572d 573b

9b Factors determining the prosperity or  
opulence of states fluctuations in national  
prosperity

6 THUCYDIDES *Peloponnesian War* BK I 352c d  
7 PLATO *Republic* BK I 316c 317a / *Laws* BK  
IV 677a-c

9 ARISTOTLE *Politics* BK VII CH 6 531b-d

11 HOBBS *Leviathan* PART II 154b-c

16 STERNE *Tristram Shandy* 253a b

30 MONTESQUIEU *Spirit of Laws* BK VII 44a  
47c A XIII 96b d K XVI 125d 127a b  
132a b BK XX 152a d BK XXI 154b c BK  
XXII 174c-d 183b-c BK XXI 191a c

38 ROUSSEAU *Inequality* 352a 353a 360b-361a  
365c 366a / *Political Economy* 375b d  
383b-c / *Social Contract* BK II 404a c BK  
III 415b-417a

39 SMITH *Wealth of Nations* I IV 3a 300d  
esp BK I 3a 10b BK II 142d 151c 155b-162d  
BK IV 182b 192c 279b 300d

40 GIBBON *Decline and Fall* 21c 22c 236c  
237a 239b d 456d-457a 501b d 642-c  
655d 658d

41 GIBBON *Decline and Fall* 221b 222d 314c  
315d esp 315b d 355c d 427 d 558c d  
597c 598a

43 FEDERALIST NUMBER 31c d NUMBER 5  
38a NUMBER II 12 53b 56d passim NUMBER  
III 79c d

43 MILL *Representative Government* 335a b

44 BO WELLS *Johnson* 171 B

45 11 O G L *Philosophy of Right* PART III par 243-  
247 77b 78b / *Philosophy of History* PART I  
243d 244c PART II 263b d PART III  
299a-c

50 MARX *Capital* 31a 37c passim 111 178c  
179a 218c 219 253b 254b 377 378a

50 MARX ENGELS *Communist Manifesto*  
421b-c

9c Diverse economic program for securing  
the wealth of nations the physiocratic  
the mercantilist and the laissez faire  
systems

38 ROUSSEAU *I quality* 365c 366a / *Political  
Economy* 377b 385 c

39 SMITH *Wealth of Nations* K 104b 105a  
BK IV 182a 300d esp 182b 192c 279b 300d

40 GIBBON *Decline and Fall* 41c 66b c 642b

41 GIBBON *Decline and Fall* 87b

43 FEDERALIST NUMBER II 55 d

43 MILL *Liberty* 312 313a

44 BO WELLS *Johnson* 280d 281a

50 MARX *Capital* 251c 252

50 MARX ENGELS *Communist Manifesto* 426b c

9d Governmental regulation of production  
trade and other aspects of economic life

7 PLATO *Republic* BK IV 342d 343a BK II  
408b-d / *Laws* K VIII 742a d BK XI 771b-  
775d

14 PLUTARCH *Lycurgus* 36a 37b / *Lycurgus  
Numa* 61b d 62c / *Pericles* 127a 128a

15 TACITUS *Annals* BK VI 90a-c

23 HOBBS *Leviathan* PART II 119d 120b 125d  
126a

38 MONTESQUIEU *Spirit of Laws* BK XX 148c d  
149c 150a 152a d BK XXI 176a 177a 183a

38 ROUSSEAU *Social Contract* BK II 405b c

39 SMITH *Wealth of Nations* BK I 51a 62a BK  
II 161a BK III 170b-c BK IV 182a 300d A  
V 315a 331d passim

40 GIBBON *Decline and Fall* 66b-c 198a 249d  
250b 392c 393a 486c d 656c 658b esp 657d

41 GIBBON *Decline and Fall* 87b-91a

43 ARTICLES OF CONFEDERATION IV [24 36]  
5b c IX [173 185] 7a [275 285] 8a

43 CONSTITUTION OF THE U.S. ARTICLE I SECT 8  
[201-203] 13b SECT 9 [276-282] 13d SECT 10  
[304 313] 14a

43 FEDERALIST NUMBER 22 80d 81c NUMBER  
42 137b 138c NUMBER 44 145b c NL BK  
45 149d 150a

43 MILL *Liberty* 312c 313a 319d 320a

46 HEGEL *Philosophy of Right* PART III par 235-  
236 76a-c par 240-242 76d 77b par 248  
78b ADDITIONS 145 140b 148 140c d 150  
141 b

50 MARX *Capital* 79d 80b [fn 4] 108c 111a pas-  
s m 115c 122c 127c 146c esp 146a c 174a =  
193a 194b 200a 209 d [fn 1 3] 233c 235  
236c 248d esp 236c 237d 248c d 277d  
278a c 357a 358a 366c 368b 374a 375c

50 MARX ENGELS *Communist Manifesto* 426c

9e The economic support of government and  
the services of government

9e(1) The charges of government, the cost of  
maintaining its services elements in the  
national budget

5 ARISTOPHANES *Lights* [773-835] 479b-480b /  
*Wasps* [653-7 4] 515c 516d

9 ARIOTTE *Politics* BK I CH II [1259-33 36]  
453d K II H9 [127 170- 7] 467d BK VI CH  
5 [13 0 7 16] 523d 524b BK VII CH 8  
[1328-11 1] 532d / *Rhetoric* BK I CH 4  
[1359-123 33] 600a

14 PLUTARCH *Cato the Younger* 625b 626d

15 TACITUS *Historiae* BK V 268 d

35 LOCKE *Civil Government* CH XI ECT 140 58a

38 MONTESQUIEU *Spirit of Laws* BK XIII 96 b

38 ROUSSEAU *Political Economy* 377b 380d /  
*Social Contract* K II 415b 417a

39 SMITH *Wealth of Nations* K IV 182b 192c  
passim BK V 301a 357 401d 403b

40 GIBBON *Decline and Fall* 41b = 65a b 155d  
156a 249d 250a 368a b

41 GIBBON *Decline and Fall* 177a b 315b 317a

42 HANT *Science of Right* 441d-444c 451d  
452a

43 ARTICLES OF CONFEDERATION V 6d 7a  
XI 9b



9e The economic support of government and the services of government 9e(1) The charges of government the cost of maintaining its services elements in the national budget)

- 43 CONSTITUTION OF THE U.S. ARTICLE I SECT 6 [132 135] 12c [143 148] 12 d SECT 8 [ 6-229] 13b c [ 35 253] 13c passim SECT 9 [ 83 288] 13d 14a ARTICLE II S CT I [394-400] 15a ARTICLE III S CT I [463 468] 15c ARTICLE VI [578 582] 16d AMENDMENTS XIV SECT 4 19a
- 43 FEDERALIST NUMBER 13 59a 60a NUMBER 3 31 101a 107b esp NUMBER 30 101a b NUMBER 34 109b 111d NUMBER 43 142d 143a NUMBER 73 218d 219b NUMBER 79 233c 234a NUMBER 84 254c 256a
- 44 BO WELL Johnson 281d 282a
- 46 H L. Philosophy of History PART IV 365c d

9e(2) Methods of defraying the expenses of government taxation and other forms of levy impost confiscations seizures and other modes of taxation

OLD TESTAMENT Genesis 41 33 36

A CRYPH I Ma abees 10 25 31—(D) OT I M chabees 10 25 31

5 AR TOPHAN S W a ps [633 7 4] 515c 516d / Birds [27 48] 542c d

6 HERODOTUS Hist k i 43c BK 1 109d 111b 114b

6 THUCYDIDES Peloponnesian War BK 1 373b BK 1 420d 421b

7 PLATO Laws k v 791d

9 AR TOTLE Polit BK 1 CH II [ 259 23 36 453 d BK VI CH 5 [1320 20 2] 523d / Athenian Constitution 47 48 574b 575b

14 P UTARCH Aristid 274c d / Marcus Cato 285 d / Lucullus 409b d

15 TACITUS A ls BK V 82d 83a k v II 139a-c / Hist s k i 194d 195a k i 236d 237

23 MACH AVELLI Prince CH X 1 22d 23b

23 HOBES Leviathan P RT 78c d PA T II 104b d 152 156 157a

27 SHAKESPEARE Cymbelin ACT I SC I 463c 464c / Henry VIII ACT 5 II [18 101] 552d 553d

35 LOCKE Civil Government CH XI ECT 4 58a

36 SWIFT Gulliver ART I 11b 12 29b 31a ART II 75a b P RT III 113b 114a

38 MONTESQUIEU Spirit of Laws BK V 23c 24b BK X 1 96a 102 k xiv 143b c BK xv 149d 150 BK XXII 183b 184b

38 ROUSSEAU Politic Econ my 377b 385a c / Social Contract k i 415b-417a

39 SMITH Wealth of Nations k iv 192c 288c esp 192c 233d 279b 288c BK V 311c 313a 315a 319d 356d 421d c p 361b d 401d

40 CLYDE and Fall 41b-c 64d 68 86a 162c 251d 255c 368a b 413a 577d 578c 658c 660c esp 659c 660c

41 GIBSON Decline and Fall 177 b 417b-c

42 KANT Science of Right 441d-444c

43 DECLARATION OF INDEPENDENCE [63 70] 2b

43 ARTICLES OF CONFEDERATION IV [24 36] 5b v VI [100 106] 6b VIII 6d 7a IX [ 86- 90] 8a [299-318] 8b [350-367] 8c d passim

43 CONSTITUTION OF THE U.S. ARTICLE I SECT 2 [17 40] 11b d SECT 7 [152 155] 12d SECT 8 [192 200] 13a SECT 13d 14a passim SECT 10 [296-313] 14a AMENDMENTS V 17b c X 119b

43 FEDERALIST NUMBER 7 43c-44a NUMBER 12 56d 58d NUMBER 1 79b 80c NUMBER 30-36 101a 117d NUMBER 41 135b c NUMBER 44 145b c NUMBER 45 149b 150b NUMBER 85 246b c NUMBER 84 253b [fn 1]

43 MILL Liberty 315c d / Representative Government 335a II 356c d 366d 367a 383b d / Utilitarianism 473a c

46 HEGEL Philosophy of Right PART III par 299 99c 100b ADDITIONS 177 147d / Philosophy of History PART I 226d 227b 243b PART III 299a c 310c P RT IV 324b 325b c 335a 336c 364d

50 MARY C PUAL 65c 66a 375a b

50 MARY ENGELS Communism Manifesto 429a

51 TOLSTOY War and Peace BK IX 384c 388a c

9f Wealth or property in relation to different forms of government

6 THUCYDIDES Peloponnesian War BK 1 350d 351a 352 d BK V II 575d 576b 579c 590c

7 PLATO Republic k ii 316c 319 BK VIII 401d 416a / Laws BK V 695a c

9 ARISTOTLE Ethics bk v CH 3 [111 24 29] 3 8d bk VIII CH 10 [110 11 16] 412d [1 66<sup>b</sup> 33 116<sup>a</sup>] 413 b / Politics bk II III [1273 3-6<sup>b</sup>] 469c 470a BK III CH 7 476

477a esp [1270<sup>a</sup> 4 10] 476d 477a h 8 10 477a 479a passim h 11 [1283 24 41] 480a b CH 13 [1283<sup>a</sup> 23 1283 2] 481b 482 CH 15 [ 286<sup>b</sup> 8 2] 484d 485a BK IV CH 3 [1289<sup>b</sup> 8-1290 13] 488d 489a CH 4 [1290 30 120] 489b d [1291<sup>b</sup> 13] 490d CH 6 [1293 12 34] 492d 493a CH 9 [1 94<sup>b</sup> 19 30] 494c d BK V CH 502a 503b CH 8 [1308<sup>b</sup> 10-1309 3] 510d 511 CH 12 [1316<sup>b</sup> 15 22] 519 d BK I CH 3-6 521c 524c / Athenian Constitution CH 2-5 553a 555a CH II 12 557a 558a / Rhetoric BK I CH 8 [ 366 3-6] 608b

14 PLUTARCH Lycurgus 36a 37b 47a 48a / Solon 68d 71c / Populocrat Solon 87a / Pericles 125b 130d / Coriolanus 180b d / Lynde 361a d / Lucullus 400d 401 / Agis 649 650d

20 AQUINA Summa Theologica PA T II Q 95 A 4 NS 229b 230c Q I 5 A 2 AN and REP 1 6 309d 316a

23 HOBES Leviathan PART II 124d 125c 150a 154b c

35 LOCKE Civil Government I CH VII SECT 83 43c d S CT 90-94 44d-46c passim CH XI CT 138 57b-c CH XV CT 73 174 65c d

38 MONTESQUIEU Spirit of Laws k i 3 d BK I 1 10a BK IV 16d 17b 17d 18a BK V 19a

- 21d 23a 25c 27d 28a 29b 30a 32b-c BK VII, 44d 46c 50a b BK XIII 96a 102a c BK XVII 125a = 126b d BK IX 147a d 149a c BK XXII 174c d
- 38 ROUSSEAU *I quality* 359a d / *Social Contract* BK III 411a 412b-c 415b-417
- 39 SMITH *Wealth of Nations* BK IV 243b d 255a c BK V 356b d 401d-403a
- 40 GIBBON *Decline and Fall* 90d 91a 144b 413a 619b-c
- 41 GIBBON *Decline and Fall* 73b 403c d 404c d 427-428a
- 42 KANT *Science of Right* 413d 441d-443b esp 441d-442c
- 43 FEDERALIST NUM 8, 256b c
- 44 MILL *Liberty* 309a c / *Representative Government* 369b-370a 384a 386c passim esp 385a b 393c 394d
- 44 BOSWELL *Johnson* 182c d
- 46 HEGEL *Philosophy of History* INTRO 193b-c PART I 226d 227b PART V 335a 336c 364d
- 48 MILLER *Moby Dick* 295a 297a

# 9g Wealth and poverty in relation to crime and to war between states

- 5 ARISTOTLE *Peace* [6 1-648] 532d 533 [19 1261] 540 d / *Lystrat* [486-492] 589a
- 6 HERODOTUS *History* BK I 4b 5a b 16b-c 21b BK II 73b 74d 79a c 87a b BK I 115c 116a BK IV 146a b BK V 160d 161a 169a-c BK VI 194a 211a 212a BK VII 214d 216b BK VIII 280b d BK IX 288b 297b d 305d 306a 314a c
- 6 THUCYDIDES *Peloponnesian War* BK I 349b d 350d 352a b 369b 370a 378c d 384d 386b BK II 390c 391 402d 404a BK I 419d-420b 420d-421b BK IV 461d 462a BK V 482d-483 BK VII 545b 546
- 7 PLATO *Republic* BK II 318c 319 BK IV 342d 344 BK VIII 406c 407a / *Laus* BK XI 771b 772b / *Seventh Letter* 814b c
- 9 ARISTOTLE *Politics* BK II 1265<sup>a</sup>10-12 461 BK I [1267<sup>a</sup>2] 462 d BK II [27 15-31] 466b-c [1 71<sup>a</sup>10 7] 467d BK V CH 7 [1306<sup>b</sup>32 307<sup>a</sup>3] 508d 509a
- 14 PLUTARCH *Lycus* 36-c 47d / *Sulla* 374d 375b / *Cleomenes* 667a c / *Marcellus* 817d 818a
- 15 TACITUS *Annals* BK VI 89 / *Historiae* BK I 195d 201a b BK I 223b
- 21 DANTE *Divine Comedy* HELL V [58 75] 9a
- 23 HOBBES *Leviathan* XT 76d PART I 140 d 142b-c 157a
- 26 SHAKESPEARE *Henry V* ACT V B [23 76] 563c 564a
- 30 BACON *New Atlantis* 204d 205a
- 35 LOCKE *Civil Government* CH XV 5 CT 180-184 67b-68d
- 36 STERN *Tuttmann's History* 225a
- 37 FENELON *Temple of Solomon* 271 273
- 38 MONTESQUIEU *Spirit of Laws* BK XI 86c d BK XI 100d 101a BK XVIII 125d BK XX 152a b

- 38 ROUSSEAU *Inequality* 353c 354b 365d 366b / *Social Contract* BK I 389d 390a BK II 404c
- 39 SMITH *Wealth of Nations* BK IV 187c 190b BK V 301a 309a c 403a b 408a 411b
- 40 GIBBON *Decline and Fall* 35a 175c
- 41 GIBBON *Decline and Fall* 87b 343b 593a-c
- 43 FEDERALIST NUMBER 4 35b d NUMBER 5 38b c NUMBER 6 40a 41a NUMBER 7 41d 44c NUMBER 8 45b 46 NUMBER 23 98b NUMBER 33 102d 103a
- 46 HEGEL *Philosophy of Right* ADDITIONS 124 137a 148 149 140c 141a
- 47 GOETHE *Faust* PART II [II 151 287] 271b 274b
- 49 DOWD *Descent of Man* 325d 326a
- 51 TOLSTOY *War and Peace* BK X 424b-c 440d 441a BK X 475b 476 490a BK 500d 502a BK VIII 572d 573b BK XV 634a 635a

# 9h The struggle of economic classes for political power

- 5 EURIPIDES *Suppliants* [2 245] 260b c
- 6 HERODOTUS *History* BK VI 202c 203b BK VII 243b c
- 6 THUCYDIDES *Peloponnesian War* BK III 423a b 427d 428a 428c d 434c-438c passim BK IV 459a 463a-465 BK V 482d 483a 502d 504b BK VI 520b c BK VIII 564a 593a c passim
- 7 PLATO *Republic* BK IV 342d 344a BK VI 405c 406b esp 406b
- 9 ARISTOTLE *Politics* BK III CH 10 [1281 1 29] 478d 479a c [15 86<sup>a</sup>2 2] 484d 485a BK IV CH 13 [89<sup>a</sup>28 1290 13] 488d 489a CH 4 [1 91<sup>b</sup>7 3] 490d CH 6 [1293 34] 492d 493a BK V CH I 502a 503b passim I 3 [1303<sup>b</sup>4 8] 505a [1303<sup>b</sup>5 18] 505a b I 4 [1304 40-46] 506a c 5-6 506b 508c CH 7 [1306<sup>b</sup>32 13 7 3] 508d 509 BK I [1310<sup>a</sup>22 5] 512c BK VI CH 3 521c 522 / *Athenian Constitution* CH 2 5 553a 555 CH II 1 557a 558
- 11 PLUTARCH *Solon* 68d 71c 75c 76d / *Camil* 117c 121a c / *Cicero* 176b 184c / *Agrippa* 648b d 656d / *Clodius* 657a 663c / *Tiberius Gracchus* 671b d 681a c / *Cicero* 681b d 689 c / *Cicero* and *Tiberius Gracchus* 689b d 691 c / *Cicero* 708 713b
- 15 TACITUS *Annals* BK VI 97b
- 26 SHAKESPEARE *2nd Henry VI* CT IV 56 64d
- 27 SHAKESPEARE *Coriolanus* 351a 392a c esp ACT I SC I [1 167] 351a 353a
- 38 MONTESQUIEU *Spirit of Laws* BK XI 77b 80a
- 38 ROUSSEAU *Inequality* 352a 356a passim esp 355a 356a
- 39 SMITH *Wealth of Nations* BK I 109d 110d BK V 309a 311c
- 40 GIBBON *Decline and Fall* 144a d
- 43 FEDERALIST NUMBER 1 50b 51b
- 43 MILL *Representative Government* 345c-346a 366c 367b 369b 370 393c 391d 398a d
- 44 BOSWELL *Johnson* 251a 255d

- (9) *Political economy, the nature of the science of economics* 9b *The struggle of economic classes for political power*

46 HEGEL *Philosophy of Right* ADDITIONS 149 140d 141a / *Philosophy of History* INTRO 193b c PART II 263b d 275b 276a PART III 295d 297a

50 MARX *Capital* 6d 7d esp 7b d 8a 9c 63b-c 113c 134c 146c esp 145a

50 MARX ENGELS *Communist Manifesto* 415a 434d esp 415b c 416c d 420b = 423b 425c 429b c 434c d

52 DOSTOEVSKY *Brothers Karamazov* bk vi 165b 166a

54 FREUD *New Introductory Lectures* 882b 884d

# 10 The moral aspects of wealth and poverty

- 10a The nature of wealth as a good its place in the order of goods and its relation to happiness

OLD TESTAMENT *I Kings* 3 6-14—(D) *III Kings* 3 6-14 / *II Chronicles* 1 1—(D) *II Paraleipomenon* 1 7 12 / *Job* 21 7 13 3 4 28 36 18-19 / *Psalms* 49 52 7—(D) *Psalms* 48 51 9 / *Proverbs* 1 19 8 10 11 10 2 11 4 28 13 7 14 0 15 16-17 16 8 17 1 19 16-7 22 1 23 4 5 27 24 8 6 11 0 22 / *Ecclesiastes* 2 3 11 4 6-8 5 9-6 2 esp 5 3 15 5 19-2 6 7 1 0 9—(D) *Ecclesiastes* 2 3 1 4 6-8 5 8-6 10 9-12 14 5 18 19 6 2 7 13 10 19 / *Jeremiah* 9 23 24—(D) *Jeremiah* 9 3 4 / *Ezekiel* 7 19—(D) *Ezekiel* 7 9 / *Zephaniah* 1 18—(D) *Sophonias* 1 18

APO RYTH *Tobit* 4 21—(D) *OT Tobias* 4 23 / *Wisdom of Solomon* 5 8 12 7 7 11—(D) *OT Book of Wisdom* 5 8 2 7 7 11 / *Ecclesiastical* 7 8 19 8 2 1 30 3 11 8 7 12 8 13 esp 13 1 7 13 19-24 20 30 29 22 3 30 14 6 31 1 11 40 25 6—(D) *OT Ecclesiastes* 1 16 7 20-21 8 2 3 0 33 34 11 8 29 12 8 13 esp 13 1-8 13-23 30 2 3 29 28 29 30 14 16 31 1 11 40 25 27 / *Baruch* 3 16-19—(D) *OT Baruch* 3 16 9

NEW TESTAMENT *Matthew* 6 9-34 13 18 23 19 16-30 / *Mk* 4 20 esp 4 19 10 17 31 / *Lk* 6 20-26 8 5 15 esp 8 14 2 3 34 16 19-23 18 18 3 / *IT Timothy* 6 6-12 17 19 / *Jmes* 5 1-6

5 ALEXANDER *Peisistratus* [16 169] 17a

5 EUCLID *Elements* [36 400] 330b d [120 431] 331a [938-944] 335c / *Hebrew* [06 1232] 363b / *Phoenician* *Maudsley* [383 44] 381 d [528-567] 382c d / *Cyclops* [316-346] 443b

5 ARISTOTLE *Nicomachean Ethics* [59-65] 5 0a b / *Politics* [76-197] 630 631b [415-618] 633d 636d

6 HERODOTUS *History* 3 bk 1 6c 8a bk 11 121b c 1 169d 170a bk vii 264c

6 THUCYDIDES *History* 1 1a bk 1 350d 351a

7 I LATO *Euthydemus* 74b c / *Meno* 177d 178d / *Apology* 206b = / *Gorgias* 254d 255b / *Republic* bk I 296c 297b bk III 325b c bk III IV 341c 343b / *Critias* 479d 485b c / *Lysis* bk IV 751

8 ARISTOTLE *Topics* bk III CH 1 [116 162a [116<sup>b</sup> 2 11, 4] 163b c CH 3 [116<sup>b</sup> 9] 165b c / *Sophistical Refutations* CH 25 [18 17 11] 248d

9 ARISTOTLE *Ethics* bk I CH 1 2 339a d passim CH 3 [1094<sup>b</sup> 17-19] 339d CH 4 [109, 14 9] 340b c CH 5 [1096 5 10] 341a b CH 7 [1097 15<sup>b</sup> 8] 342c d passim esp [1097 25 28] 342c CH 8 [1099 31-38] 344d 345a bk IV CH 3 [1124 13<sup>b</sup> 6] 371a b CH 7 [1127<sup>b</sup> 9-2] 374d 375a bk V CH 2 [1130 13<sup>b</sup> 1] 377c 378a bk X CH 3 [1173<sup>b</sup> 25 27] 428a / *Politics* bk I CH 9 10 450d 452d bk III CH 1 [1 83 12 20] 481a b bk VII CH 1 [1323 22] CH 2 [1324 10] 527a 528a CH 8 532c 533a / *Rhetoric* bk I CH 1 [1355<sup>b</sup> 8] 594d CH 3 [1360<sup>b</sup> 14 30] 601a b [1361 12 24] 601c d CH 6 [1362<sup>b</sup> 10 28] 603b c esp [1362<sup>b</sup> 18 19] 603c bk II CH 16 638b c

12 LUCRETIUS *Nature of Things* bk II [1 44] 15a d bk V [1113 1135] 75c d bk VI [1 34] 80a =

12 EPICURUS *Discourses* bk II CH 19 16 c 164b bk IV CH III 230b 232c

12 AURELIUS *Medius* bk VIII SECT 33 288a  
13 PLUTARCH *Lycurgus* 36 37b / *Pericles* 130b c / *Pelopidas* 233a b / *Marcus Cato* 285c d / *Alibi* *Marcus Cato* 291b 292b / *Lysander* 361a d

15 TACITUS *Annals* bk VI 91c bk XIV 154a c / *Historiae* bk II 232d 233a

18 AUGUSTIN *City of God* bk I CH 8-10 133a 130c

19 AQUINAS *Summa Theologiae* ART I Q 26 A 4 ANS AND REP 151c 152a c PART II Q 1 A 7 ANS 614c 615a Q 2 A 1 615d 616c A 3 REP 618d 619c Q 4 A 7 635b 636a

21 DANT *Divine Comedy* HELL VII [1-96] 9a 10c PURGATORY XV [40-8] 75d 70 XVII [127 39] 79d XIX [70] XVII [114] 82b 87c

22 C. IUGER *Prologue of Man of Law's Tale* [4519-4546] 235b 236a / *Tale of Wif of Bath* [669-6 88] 274b 276a / *Tale of Melbe's par* 49-53 422a 425b par 77 430b 431a

23 M. C. IAVELL *Prince* CH XVI 24b c c 1 2 26a b CH XXV 35c

3 HOBBS *Leviathan* PART I 74d 75a 90c PART I 155b c

25 MONTAIGNE *Essays* 110a 122a 1 4d 126b 131a p im

26 SHAKESPEARE *Romeo and Juliet* I ACT V SC 1 [66 86] 315b / *King John* ACT I SC 1 [61 598] 385c 386a / *As You Like It* I ACT II SC V [40-59] 606d

27 SHAKESPEARE *Othello* ACT I SC III [139-38] 212c d CH III SC III [154 161] 223d / *Timon of Athens* 393 420d esp ACT IV SC II 410a c s II [1 47] 410d 411a [382 462] 415a d /

- Peri l s ACT I C IV 425c-426d / *Cymbeline*  
 A T II SC III [70-95] 460a b ACT III SC VI  
 [ 36] 470d-471b / *Sonnets* CXLVI 608c  
 29 CERVANTES *Don Quixote* PART II 222c  
 338b-c  
 30 B CON *Idancerent of Learn ig* 86b-c 92a b  
 35 LOCKE *Human Understanding* BK II CH XVI  
 SECT 55 56 192c 193b  
 37 FIELDING *Tom Jones* 17c d 32a d 103c  
 104a 263c-d 283 -c  
 38 MONTESQUIEU *Spirit of Laws* BK V 19a d  
 BK VIII 96c BK X 146b d 150b-c  
 38 RUSSEAU *Inequality* 360b 361a  
 40 GIBSON *Decl e and Fall* III  
 41 GIBSON *Decl e and Fall* 297c 298a  
 42 HAN Fu d Pri *Metaphysic f Mo als*  
 256a b / *Pract c l Reas* 330d 331 / *Pref*  
*Metaphysic Elem is of Ethics* 370b d  
 43 MILL *Utilitari sm* 462c-463b  
 44 BO WELL *Johnson* 102d 103a 124d 125c  
 140b 141a 189d 190b 210d 211b 300a c  
 349a c 403 491b 492b c 493 498d-499a  
 47 G RINE *Fust* PART I [2796-2804] 68a b  
 P T I [2987-6171] 146b-151a  
 51 TOL TOY B *and Peace* BK I 30a 31a 50b  
 c III 111a 113a BK V 194d BK VI 2 0a  
 251d BK VIII 311a 313a  
 52 DOSTOEV KY *Brothers Karama* BK IV  
 105 107a K V 110 111 130d 132b K  
 VI 158b 159a 164b 166a BK VIII 191b d  
 235d BK XI 308a b  
 53 JAMES *Psych logy* 188b 189b 20 b 203  
 725b 726a  
 54 F RUD C l l at on and Its Discontent 777a  
 779a  
 106 Natur l limit to the acquis t on of wealth  
 by ind id ls the dist action between  
 m c ss tes and luxuries  
 5 EU P R *Helen* [9 3-903] 306d 307a  
*Eltra* [4 0-431] 331a / *Phoen cian Ma d ns*  
 [428-567] 382 d  
 7 P to *Republic* BK II 316 319a K II  
 409d 410c / *Timaue* 442c d / *Crit* s 479d  
 8 ARISTOTLE *Topics* BK III CH 2 [118 6- 6]  
 164d 165a  
 9 AR STOTLE *Plates* K I CH 8 [256b-27 39]  
 450c d CH 9 [257b-17 1 58 14] 451d-452b  
 BK VII C I 5 [3 6-26-38] 530d 531  
 12 E I T TUS *Dico es* K IV CH 4 225a  
 228a 19 237d 238d  
 11 PLUTARCH *Lycurgu* 36 37b / *Ma cus C to*  
 285c d / *Arus des Ma cu Cato* 291b 292b  
 15 T TUS *Anils* BK II 31a b K II 57b  
 58d  
 10 AQUINA *Summa The log a* ART I Q 2  
 A I ANS nd R 3 615d 616  
 20 AQUIN S *S nma Theol g* PART II II Q  
 32 A 5-6 544a 546b  
 21 D NT *D ine C m dy* II L XI [9 -115]  
 16 b K I [34-75] 24b  
 22 CHAU ER *T f M l beus* P 49-5 422a  
 424a  
 25 MONTAIGNE *Essays* 110a c 131b 132a 216d  
 218a 489b-490c  
 27 SHAKESPEARE *Ki g Lear* ACT II SC I [263-  
 274] 261c ACT III SC IV [27 36] 264c  
 31 S NOZA *Ehls* PART IV APPENDIX XXVIII  
 XXIX 450a  
 33 PASCAL *P oymical Letters* 91a 94a  
 35 LOCKE *Civil Government* CH V SECT 30-39  
 31c 33c  
 38 MONTE QUIEU *Spirit of Laws* BK VII 44a d  
 BK VIII 96 BK XIX 145b  
 38 ROUSSEAU *Inequality* 327c 328a 337b  
 350a c 352a 353c 365c 366b / *Soci l Con*  
*tract* BK I 393c 394b  
 39 S ITU *Wealth of N tions* BK I 27b 7b pas  
 sm 63a b 70a 71d 74d 75b BK III 163  
 164c K V 383c d  
 40 GIBSON *Decl e and Fall* 22c  
 41 GIB ON *Decl n and F ll* 451d-452a  
 43 F DERALI T NU IBER 30 102a b  
 43 MILL *Utilitaria sm* 462c-463a 470d-471b  
 44 BOSWELL *J nson* 124d 125c 313a b 389d  
 390a  
 46 H GEL *Philosophy of Ri ht* PART I i par 90-  
 191 66a b p r 195 66d 67a pa 203 68a  
 ADD TIONS 120 136b c / *Philosophy of History*  
 INTRO 193b-c PART II 267a b  
 50 MARX *Capital* 16c 17a 71d 72c 81a d 88c  
 112a c 147d 148b 218d 219a 251a 255a esp  
 253a b 254c 261 d 282d 283c 292c 296a  
 esp 293c 294a  
 54 FR UD *Cisl t on and Its D s onents* 787d  
 788a  
 10c Temper nce and intemper ance with re  
 spect to wealth libe ality m gnificence  
 miserline a rice  
 OLD T TAM VT *Exodus* 18.20-21 20 17 /  
*Deuteronomy* 5 1 17 6 17 / II *S muel*  
 12 -6-(D) II *Kan s* 12 1 6 / I *Kings* 21-  
 (D) III *Kings* 21 / II *King* 5.20 27-(D)  
 II *Ks gs* 9 0-27 / *Job* 31 16-23 / *Psalms*  
 62 10 112 5 119 36-(D) *Psalms* 61 11  
 11 5 118 36 / *Proverbs* 1 10-19 15-7 23 4  
 5 28.22 30 8-9 / *Ecl nati* s 5 10-6 12-(D)  
*Ecl e at s* 5 0-6 11 / *Isa h* 33 5-17 57 17  
 -(D) I *Isa* 33 15 17 57 17 / *Jerem ah*  
 22 3 11-(D) *Jerem a* 22 3 9 / *Ech l*  
 22 13 5-29-(D) *E e hiel* 2 3 5 29  
 / *Am s* 2 6-7 5 12 / *M h* 3 9-1 7-2 3  
 -(D) *M h s* 3 9-11 7 2 3 / *H bakkuk*  
 2 4 5 9-(D) *Hab cu* 4 5 9  
 APOCRYPH. *T bti* I 1-8 4 7 1 5 18 19-(D)  
 OT *Tob as* I 1-8 4 7 12 524 25 / *Wisdom*  
 of *Solom* m 15 2-(D) OT *Book of W sdom*  
 15 / *Ecclesi a stis* 10 9 11 18 9  
 6 4 3 10 18 32 33 20 30 29 2 7 3 -  
 8 31 1 1 23 24-(D) OT *Ecl s* s.c  
 10 9-10 1 10 18 m -4 14 3 8 32-  
 33 32 29 2 0-17 26-34 31 1 28 29  
 / *Ba uch* 3 6-19-(D) OT *Baruch* 3 16-19  
 / II *Macc b es* 3 4-(D) OT II *Machabe s*  
 3-4

- (10) *The moral aspects of wealth and poverty*  
10c *Temperance and intemperance with respect to wealth liberal by magnificence miserly is avarice*

NEW TESTAMENT Luke 6 33-35 12 13 ■ / Acts 20 33-34 / 1 Cor 13 1-13 5 10 11 6 10 / Ephesians 5 3 / 1 Timothy 6 6 12 / Hebrews 13 5 / James 5 1-6

5 EURIPIDES *Hecuba* [1206 123] 363b

5 ARISTOTELIS *Politics* [653 724] 515c 516d / *Plutus* [144 197] 630d 631b

■ HERODOTUS *History* bk III 105b c bk VI 208d 209 211a b bk VII 221c 222a K IX 305d 306a

6 THUCYDIDES *Peloponnesian War* bk VI 512c 513d

7 PLATO *Republic* bk VI 1 405c 408a / *Critias* 485b ■ / *Laos* bk VII 733b 734a bk IX 751c d

9 ARISTOTELIS *Ethics* bk I CH 3 [094<sup>b</sup> 17 19] 339d K II CH 7 [1 7<sup>b</sup> 9 1] 353 b bk IV CH 1 2 360b d 370b CH 3 [1124 13 6] 371a b bk V CH 2 [113 4 28] 377d bk V H 4 [114<sup>b</sup> 4-114<sup>d</sup> 4] 398a b / *Politics* bk I CH 5 [1263<sup>a</sup> 22-<sup>b</sup> 6] 458b d CH 6 [126<sup>a</sup> 8 37] 460c d CH 7 [1266<sup>b</sup> 4 126<sup>a</sup> 9] 462b 463b CH 9 [1269<sup>b</sup> 13 1270 14] 465d 466b [1271<sup>b</sup> 10-17] 467d bk V K 9 [310<sup>a</sup> 22 5] 512c K VI CH 7 [13 1 35 2] 525a bk V CH 5 [326<sup>b</sup> 26-38] 530d 531 / *the constitution* CH 5 par 3 554d 555a CH par 557c / *Rhetoric* bk I c 9 [366 33<sup>b</sup>] 608d 609a

12 LUCRETIVS *Nature of Things* bk III [59-18] 30d 31a bk V [1113 135] 75c d

12 EPICURUS *Discois* bk V c i 9 237d 238a

12 AURELIUS *Mediator* bk VII c 7 281d bk VIII c 7 33 288a

14 PLUTARCHUS *Lives* 36a 37b / *Lacus* 1 Numa 62b c / *Coriolanus* 178 179a / *Aemilius Paulus* 218a d 223 224a / *Pelopidas* 233 b / *Marius* c 10 276b d 290d esp 287c d / *Aulus Metellus* 291b 292b / *Lysander* 361a d / *Lysander Sulla* 388b / *Cimon* 394b 395a / *Lucullus* c 419 420b / *Cicero* 439a ■ / *Demetrius* 738c / *Antony* 755d 758c / *Marcus Brutus* 817d 818a

15 TACITUS *Annals* bk II 31a b 35c d K II 57b 58d / *Histories* bk I 194d 195a

■ AUUSTINE *Confessions* bk VI par 16 40a c

20 AUGUSTINUS *Summa Theologiae* PART I Q 60 A 3 ANS 53a 54d Q 67 A 1 R ■ 70b 72a Q 84 A 174b 175a

21 DIONYSIUS *Comedy* I ELL vi [ -96] 9 10c xi 15a 16b esp [01 15] 16 b x ■ [34-75] 24b c xi 26d 28b xi xi [ 1 139] 44b c PURGATORY xiv [70] xx i [114] 82b 87c

22 CHUCER *Tale of the Knight of the Shire* 426a / *Parson's Tale* p 1 27 512a 514b

23 MCHIALE *Principles* c xv 22d 23c

23 HOBBS *Leviathan* PART I 73a 75a

24 RABALAIS *Gargantua and Pantagruel* bk I 62c d bk III 133b 140b

25 MONTAIGNE *Essays* 110a ■ 122a 124d 436c 439c 462b c

27 SHAKESPEARE *Timon of Athens* 393a 426d esp ACT I SC II [197 211] 399b ACT II SC II 400 403b

29 CERVANTES *Don Quixote* PART II 221d 222c

31 SPINOZA *Ethics* PART IV APPENDIX XXIII XXIX 450a

33 PALMER *Provincial Letters* 91a 94a

35 LOCKE *Civil Government* CH V SECT 30-35 31c 33c

36 SWIFT *Gulliver* PART II 53a 50a

37 FIELDING *Tom Jones* 68d 87b ■ 291d 292a 362c 363a

38 MONTESQUIEU *Spirit of Laws* bk III 10a bk V 19a 21d bk VII 44d 45b bk XIV 140c d bk XV 146b c 152a b bk XV 211 c

38 ROUSSEAU *Inequality* 360b 361a / *Social Contract* bk II 403b c bk I 411a b 412b c 421c d

39 SMITH *Wealth of Nations* bk II 142d 151c bk IV 189d 190a x v 346c 347d

40 GIBSON *Decline and Fall* 139b 140c passim 155d 156a 339d 340c 510b ■ 660d 661c

44 BOYLE *Johnson* 194c 195a 295c 319b 403a 447b-c

46 HEGEL *Philosophy of Right* P RT III par 240 76d / *Philosophy of History* P RT IV 353b c

47 GOETHE *Faust* ART II [564<sup>a</sup> 566<sup>a</sup>] 139a b [576<sup>a</sup> 579<sup>a</sup>] 141b 142b

50 MARX *Capital* I 60d 62b 72a c 292d 295d

51 TOLSTOY *War and Peace* bk I 25 32 p 3 sum bk V 197b c K VII 275a 278c 291a

292b bk VII vi 301b 303 bk II 329c 332a K x 414c 416c ■ xi 490a 493d

500d 503a K XIII 569 586c bk XV 633a d EP LOGU I 650d 652a 664c 665a

52 DOSTOEVSKY *Brothers Karamazov* bk VI 164b 165a

53 JAMES *Psychology* 725b 726a

- 10d The principles of justice with respect to wealth and property fair wages and prices

OLD TESTAMENT Exodus 15 17 / Leviticus 19 1 35 36 25 35-37 / Deuteronomy 19 21

24 10 15 25 3 16 27 17 / II Samuel 12 1-6 - (D) II Kings 1-6 / I Kings 21- (D) III

Kings 21 / II Kings 5 20-7 - (D) II Kings 5 7 / I Kings 5 12- (D) II Esdras

5 1-2 / Job 24 / Psalms 1 0-9 6 30-31 11 14 31 16 11 20 10 1-6, 22 16 22

38 23 10-11 28 24 30 8-9 / Isaiah 1 14 15 10 2- (D) Isaiah 3 14 15 10 1 1

/ Jeremiah 17 11- (D) Jeremiah 17 11 / Ezekiel 22 12 13 25 29 45 9-12 / Amos 2 6 7 5 11

12 8 1-7 esp 8 4-6 / Micah 6 9-12- (D) Malchias 6 9 12 / Zechariah 5 3- (D) Zacha

ri 5 5 3

A Y H Eccl 1 cūs 2 8 14 2 25 26 29  
2 2 9 19 34 8 2 —(D) OT Ecclesia 11  
cūs 5 10 16 17 20 27 26.28 27 2 29-25  
34.2 27

NEW TESTAMENT Matthew 10 10 19 18 / Mark  
10 9 / Luk 3 12 13 10-7 18.20 / Acts  
2 44 47 4 3 -5 1 / Roma 5 13 9 / I Co in  
thians 6 1 / Ephesians 4 28 / I Tim 1/3 5 18  
/ II Timothy 6

5 EUR D 5 Helen [903-908] 306d 307a /  
Pl emian M dens [228-67] 382c d

5 ARISTO HANES Plat 11 629 642d esp [76-111]  
630a b

6 HERODOTUS History 1 11 73b 74d 87a b  
BK 158b-c BK VI 201d 202c BK VII  
245b K VIII 260d 261a

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po e shed

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10 23-2 25 35 37 / Deuterion my 15 7-11  
24 19-2 26 13 / Ruth 2 / Job 29 12 7  
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- (10e) *The precepts of charity with respect to wealth* 10e(1) *Almsgiving to the needy and the impoverished*

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## ADDITIONAL READINGS

Listed below are works not included in *Guide to the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups:

- I Works by authors represented in this selection  
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## Chapter 100 WILL

### INTRODUCTION

THE great controversy over the freedom of the will tends to overshadow the theory of the will itself. For some thinkers the two notions are inseparable. As the word choice popularly connotes freedom in choosing between alternatives, so for them liberty belongs to the very nature of the will. But others who affirm that men can act freely or voluntarily also deny that the will itself is ever free.

Still others who distinguish between voluntary and reflex act-ones—on the part of brute animals as well as men—also distinguish between the voluntary and the free. They reserve freedom to men alone on the ground that men alone have wills. Far from identifying will with free will, they differentiate between those acts of the will which are necessitated and those which are free.

It would appear from this sampling of conflicting opinions that the issue concerning free will presupposes and often conceals diverse theories of the will—different conceptions of its nature, its various acts, and its relation to other faculties. Those who affirm and those who deny the will's freedom of action hardly meet on that issue if they proceed from different conceptions of what the will is and how it operates.

The matter is further complicated by different conceptions of freedom. Even those who define will in somewhat similar terms conceive its liberty differently. As the chapter on LIBERTY indicates, freedom has many meanings—theological, metaphysical, psychological, moral, natural, and civil. What is called free in one of these senses may not be so regarded in another. But one thing is clear. If as Hobbes thinks, the only sense in which freedom can be affirmed is that of natural or political liberty—the sense in which a man can do what he wills without restraint or compulsion—then the will is not free for its freedom depends on how its own acts are

caused, or how it causes other acts, not on how the acts it causes are affected by outward circumstances beyond its control.

The problem of the freedom of the will seems therefore to be primarily psychological and metaphysical. It requires us to consider freedom in terms of *cause* and *necessity*. It appeals to such distinctions as that between the caused, the uncaused, and the self-caused, or to the difference between the predetermined, the contingent, and the spontaneous event. To this extent the problem is metaphysical. But it is psychological insofar as the kind of event with which we are concerned is an interior act of a living thing, and even more specifically of an intelligent being, a being which has *mind* in some sense of that term. We do not ask whether stones and vegetables have free will because we do not usually suppose that they have will. Even those who like Aristotle attribute *desire* to all things, or who like William James find a striving toward goals in at least all living things, do not refer to volition or the voluntary in the absence of imagination or thought.

The italicized words in the foregoing paragraph indicate ideas which have the most fundamental bearing on the discussion of will, and hence the relation of this to other chapters. The chapters on CAUSE and NECESSITY (and those on FATE and CHANCE) deal with doctrines which both affect and are affected by various theories of the will's freedom. But if we are to postpone the question of *free will until the nature of will itself is considered*, we must begin with definitions which employ terms discussed in the chapters on MIND and DESIRE.

THE DISTINCTION BETWEEN thought and action sets the stage for the discovery of a factor or faculty which serves to connect them. Acting may follow upon thinking, but not without the

intervention of a determination or a desire to translate thought into deed. Plato in the *Republic* divides the soul into three parts of which one reason is the faculty of thought and knowledge and the other two spirit and appetite are principles of action. Both spirit and appetite need to be guided and ruled by reason but according to Plato reason depends also upon spirit for without its support even wisdom must fail to influence conduct. Though he does not use the word the role he assigns to spirit as the auxiliary of reason corresponds to the function performed by what later writers call will.

The word will appears in the English translation of Aristotle. It is used less frequently than other words—such as wish, choice, purpose, impulse, appetite, desire—to designate a motivating force but along with them it signifies the factor which turns thought into action. Unlike Plato who separates spirit and appetite Aristotle makes appetite the generic notion and treats will and desire as modes of appetite. But sometimes desire is used as a synonym for appetite and sometimes wish or choice is substituted for will.

In his treatise *On the Motion of Animals* we find Aristotle saying that the living creature is moved by intellect, purpose, wish and appetite. All these are reducible to mind and desire. For both imagination and sensation have this much in common with mind that all three are faculties of judgment. However will, impulse and appetite are all three forms of desire while purpose belongs both to intellect and to desire. But in the treatise *On the Soul* we find him insisting that appetite be considered as the single faculty of originating local movement though if the soul were to be divided into a rational and an irrational part he would assign wish to the calculative or deliberative reason, desire and passion to the irrational part.

Wish, he writes, is a form of appetite and when movement is produced according to calculation it is also according to wish but appetite can originate movement contrary to calculation for desire is also a form of appetite.

What is said of purpose and wish is also said of choice. All three somehow combine reason and desire. Giving choice is the cause of specifically human action and desire combined with

deliberation as the origin of choice. Aristotle speaks of choice as either desiderative reason or ratiocinative desire. Lacking reason animals do not have choice according to Aristotle or for that matter wish or purpose either but insofar as their appetites are stirred by sensation or imagination and the desires aroused lead to action animals behave voluntarily.

When the words desire and appetite are so used not to name the generic faculty of originating movement but to signify a motivation different in kind from wish, purpose or choice they correspond to what Aquinas later calls animal appetite or sensitive desire. This is for him the sphere of the emotions or passions. He treats the impulses of fear and anger for example as acts of the sensitive appetite.

The kind of desire which for Aristotle depends upon practical reason Aquinas calls intellectual appetite or rational desire. Since will is for him just another name for the desire or appetite which is determined by reason rather than sense he necessarily holds that irrational animals do not have will.

Aristotle says that the apparent good is the object of appetite and the real good is the primary object of rational wish. Aquinas distinguishes somewhat differently between the object of the passions and the object of the will. For each sort of appetite or desire the object takes its special character from the faculty by which it is apprehended. The sensible good perceived or imagined stands to the sensitive appetite as the intelligible good judged by reason stands to the intellectual appetite or will.

In one place Aristotle differentiates between wish and choice by saying that we can wish for the impossible whereas choice is always of things within our power. But his more usual distinction is in terms of means and end. The end is what we wish for he writes the means what we deliberate about and choose. Aquinas also divides the acts of the will according as they concern means or ends but where Aristotle mentions only choice and wish Aquinas enumerates three acts of the will with respect to ends (volition, intention and enjoyment) and three with respect to means (consent, choice and use).

According to Aquinas each of these acts of the

will responds in a distinct act of the practical reason and except for the will's last acts each may in turn be followed by further practical thought. This progressive determination of the will by reason goes on until the use of means leads to action and action leads to the enjoyment of the end accomplished. As in practical reasoning ends come before means so for the will the end comes first in the order of intention but in the order of execution action begins with the means.

Like Aristotle and Aquinas Kant and Hegel conceive will as a faculty of desire or activity founded upon reason and so they attribute will as they attribute reason to man alone. But both Kant and Hegel go further and almost identify will in its pure state with reason.

The faculty of desire writes Kant in so far as its inner principle of determination as the ground of its liking or predilection lies in the reason of the subject constitutes the will and he goes on to say that the will in so far as it may determine the voluntary act of choice

is the practical reason itself. Only man can claim possession of a will which takes no account of desires and inclinations and on the contrary conceives action as possible to him may even necessary which can only be done by disregarding all desires and sensible inclinations.

In this last statement Kant seems to use the word desire in a sense which is opposed to will. The context indicates that he has in mind something like the distinction made by Aquinas between sensitive and rational desire. This indication is confirmed by his own distinction between brute and human choice. That act which is determinable only by inclination as a sensuous impulse or stimulus would be irrational brute choice (*arbitrium brutum*). The human act of choice however as human though in fact affected by such impulses or stimuli is not determined by them and it is therefore not pure in itself when taken apart from the acquired habit of determination by reason. But according to Kant the human act of choice can be determined solely by reason. Only then is it determined to action by the pure will.

One point must be observed to which we shall subsequently return. The pure will is for

Kant a free will. The act of choice that is determined by pure reason he writes is the act of free will. The freedom of the act of volitional choice is its independence of being determined by sensuous impulses or stimuli. This forms the negative conception of the free will. The positive conception of freedom is given by the fact that the will is the capability of pure reason to be practical of itself. Insofar as pure reason is able to become practical that is to determine choices and direct action independently of all sensuous impulses or inclinations that reason is in itself the pure will and that will is in its very essence free.

For Hegel also freedom is of the essence of will. Freedom he writes is just as fundamental a character of the will as weight is of bodies. Heaviness constitutes the body and is the body. The same is the case with freedom and will since the free entity is the will. Will without freedom is an empty word while freedom is actual only as will as subject.

Though the passions enter into the sphere of the subjective will according to Hegel will transforms them. Subjective volition—Passion—is that which sets men in activity that which effects practical realization. When it is occupied with the passions the subjective will Hegel writes is dependent and can gratify its desires only within the limits of this dependence. The passions however are common to both men and animals. An animal too has impulses desires inclinations. Hegel says but it has no will and must obey its impulses if nothing external deters it. Only man the wholly undetermined stands above his impulses and may make them his own put them into himself as his own. An impulse is something natural but to put it into my ego depends on my will.

Hegel explains this aspect of the will by reference to that element of pure indeterminacy or that pure reflection of the ego into itself which involves the dissipation of every restriction and every content either immediately presented by nature, by needs desires and impulses or given and determined by any means whatever. But indeterminacy is only one moment of the will its negative aspect. The second moment occurs in the transition from undifferentiated indeterminacy to the differentiation determination and positing of a deter-

minacy as a content and object. Both of these moments are partial: each the negation of the other. The indeterminate will, in Hegel's opinion, is just as one-sided as the will rooted in sheer determinacy. What is properly called the will includes in itself both the preceding moments.

As the unity of both these moments, the will is particularly reflected into itself and so brought back to universality: *i.e.* it is individuality. It is, Hegel continues, the *self* determination of the ego, which means that at one and the same time the ego posits itself as its own negative: *i.e.* as restricted and determinate, and yet remains by itself: *i.e.* in its self-identity and universality. While the two previous moments of the will are, through and through, abstract and one-sided, the third moment gives us the individual will and freedom in the concrete. Freedom lies neither in indeterminacy nor in determinacy: it is both of these at once. Freedom is to will something determinate, yet in this determinacy to be by oneself and to revert once more to the universal.

IN THE TRADITION OF THE great books, other writers place the essence of the will not in its freedom, but in its being the cause of the voluntary acts performed by animals and men. The students of physiology from Aristotle to William James distinguish the movements of the various bodily organs—the heart, the lungs, the organs of digestion, excretion, and reproduction—from those movements of the whole animal or of its members, which are somehow based upon desire and imagination or thought.

Aristotle sometimes calls these physiological changes non-voluntary, and sometimes involuntary, though he has another meaning for involuntary: when he describes the conduct of a man compelled by fear to do something contrary to his wishes, *e.g.* the captain who throws his cargo overboard to save his ship. The completely non-voluntary motion is one which occurs quite apart from any knowledge of the end, or without conscious desire, whereas the involuntary involves some conflict of desires. When the involuntary in this special sense is not considered, only a twofold division is made, as in James' distinction between reflex and vol-

untary movements. Harvey's distinction between natural and animal motions, or Hobbes' distinction between vital and animal motions.

There be in animals, Hobbes writes, two sorts of motions peculiar to them: one called vital, such as are the course of the blood, the pulse, the breathing, the concoction, nutrition, excretion, etc., to which motions there need no help of imagination. The other is *animal motion*, otherwise called *voluntary motion*, as to go to speak, to move any of our limbs in such manner as is first fancied in our minds. Because going, speaking, and the like voluntary motions depend always upon a precedent thought of *whither, which way, and what*, it is evident that the imagination is the first internal beginning of all voluntary motion.

But the imagination, according to Hobbes, gives rise to voluntary motions through arousing desire or appetite. When desires and aversions, hopes and fears, alternately succeed one another, what Hobbes means by deliberation takes place, and he declares, in deliberation, the last appetite or aversion immediately adhering to the action, or to the omission thereof, is that which we call Will: the act (not the faculty) of willing. And beasts that have deliberation must necessarily also have will. The definition of the will given commonly by the Schools, that it is a *rational appetite*, is not good. For if it were, then could there be no voluntary act against reason. For a voluntary act is that which proceedeth from the will, and no other.

Locke disagrees with Hobbes' view that willing is an act of desire. That the will is perfectly distinguished from desire, he thinks, may be seen in the fact that desire may have a quite contrary tendency from that which our wills set us upon. Desire, according to Locke, is an uneasiness of the mind for want of some absent good, whereas will is the power to begin or forbear, continue or end, the several actions of our minds and motions of our bodies, barely by a thought or preference of the mind, ordering or, as it were, commanding the doing or not doing such or such a particular action. The actual exercise of that power, by directing any particular action to its forbearance, is that which we call volition or willing.

Though volition is not an act of desire, Locke holds that it is the uneasiness of desire which

determines the will to the successive voluntary actions. And though Locke speaks of willing as if it were an act of thought, he distinguishes between the mind's power of understanding and of willing. The one is a passive, the other is an active power. Understanding or perceptivity is a power to receive ideas or thoughts; will or motivity is the power to direct the operative faculties to motion or rest.

In this conception of the will as the power the mind has to control the faculties or the motions of the body, which can be voluntarily exercised, Locke like Hobbes before him and William James after, explains the will's action in terms of thinking of the motion to be performed or the deed to be done. Discussing the theory of what he calls *ideo motor action*, James says that a supply of ideas of the various movements that are possible, left in the memory by experiences of their involuntary performance, is thus the first prerequisite of the voluntary life. Reflexive or other innately determined movements do not depend upon consciousness of the movement to be performed. That is why voluntary movement must be secondary, not primary functions of our organism, or as he says in another place, the action which is performed voluntarily must before that at least once have been impulsive or reflex.

The kind of idea which initiates a voluntary movement, James calls a *kinaesthetic image*—an image of the sensations which will be experienced when the movement takes place. "In perfectly simple voluntary acts," he writes, "there is nothing else in the mind but the kinaesthetic image, thus defined of what the act is to be. In certain cases, however, there must be an additional mental antecedent in the shape of a fiat decision, consent, volitional mandate, before the movement can follow. This becomes necessary when contrary kinaesthetic images vie with one another to initiate antagonistic movements. The express fiat or act of mental consent to the movement comes in when the neutralization of the antagonistic and inhibitory idea is required."

With the prevalence, once there, as a fact of the motive idea, James goes on, the psychology of volition properly stops. The movements which ensue are exclusively physiological

phenomena following according to physiological laws upon neural events to which the idea corresponds. The *willing* terminates with the prevalence of the idea.

We thus find that we reach the heart of our inquiry into volition when we ask by what process it is that the thought of any given object comes to prevail stably in the mind. The answer James gives is that it is the essential achievement of the will to attend to a difficult object and hold it fast before the mind. The so-doing is the *fiat*.

Effort of attention is thus the essential phenomenon of the will.

Though Freud does not use the word *will* or analyze voluntary movements in *ideo motor* terms, he does attribute to what he calls the *ego*, the function which Locke and James ascribe to will. In popular language, he writes, we may say that the *ego* stands for reason and circumspection, while the *id* stands for the untamed passions. To the *ego* is given the task of representing the external world for the *id*, and so of protecting it from destructive conflicts with reality.

In discharging this function on behalf of the *id*, the *ego* controls the path of access to motility, but Freud continues, it interpolates between desire and action, the procrastinating factor of thought, during which it makes use of the residues of experience stored up in memory. In this way it dethrones the pleasure principle, which exerts undisputed sway over the processes in the *id*, and substitutes for it the reality principle, which promises greater security and greater success.

AS THE PROBLEM of the will's freedom involves the question of whether or how its acts are caused, so the will's action raises a problem concerning how it causes the voluntary effects it produces. In Locke's view, we are equally at a loss to explain how one body moves another, and how our own bodies are moved by our will.

The passing of motion out of one body into another, he thinks, is as obscure and inconceivable as how our minds move or stop our bodies by thought, which we every moment find that they do.

If we could explain this and make it intelligible, Locke says in another place, then the next step would be to understand creation.

Hume agrees that it must forever escape our most diligent inquiry how the motion of our body follows upon the command of our will. That it does he says is a matter of common experience like other natural events. But the power and energy by which this is effected like that in other natural events is unknown and inconceivable.

No less mysterious to Hume is the coming into existence of an idea consequent to the command of the will which seems to imply a creative power by which it raises from nothing a new idea and with a kind of *Fiat* imitates the omnipotence of its Maker. How this operation is performed the power by which it is produced seems to him entirely beyond our comprehension.

Spinoza and Descartes take a different view of the relation between the will and the intellect or understanding. Neither admits that the human will forms new ideas or as Spinoza says that there are mere fancies constructed by the free power of the will. Both conceive the will's activity as consisting in assent or dissent to ideas their affirmation or negation. But beyond this point they part company.

For one thing Descartes distinguishes between the will as a faculty of choice and the understanding as a faculty of knowledge where Spinoza holds that the will and the intellect are one and the same. Since Spinoza denies that will and intellect are anything except the individual volitions and ideas themselves it is more precise he suggests to say that the individual volition (i.e. the affirmation or negation of *this* idea) and the individual idea affirmed or denied are one and the same.

In consequence they differ with respect to the power of volition. Spinoza criticizes the supposition he finds in Descartes that the will extends itself more widely than the intellect and is therefore different from it. Whereas Descartes thinks that the faculty of comprehension which I possess is of very small extent and extremely limited Spinoza says I am conscious of a will so extended as to be subject to no limits. We can affirm or deny much more than we can know with certitude.

This difference between Spinoza and Descartes reveals itself most strikingly in their conception of God's will. According to Descartes

the omnipotence of God lies in the supremacy of his will—in its absolute independence even with respect to the divine intellect. It is self-contradictory that the will of God should not have been from eternity indifferent to all that has come to pass or ever will occur. Thus, to illustrate, God did not will the three angles of a triangle to be equal to two right angles because he knew that they could not be otherwise. On the contrary it is because he willed the three angles of a triangle to be necessarily equal to two right angles that this is true and cannot be otherwise. Against Descartes' voluntarism Spinoza declares it absurd to say that God could bring it about that it should not follow from the nature of a triangle that its three angles should be equal to two right angles.

Such different conceptions of the will or of its power necessarily lead to opposite conclusions concerning free will—in man or God. The human mind according to Spinoza cannot be the free cause of its own actions. In each of its volitions as in each of its ideas it is determined by a cause. The supposition of an infinite will in God does not exempt that will from the need to be determined in its acts nor can God on this account be said to act from freedom of will. Yet Spinoza also affirms that God alone is a free cause for God alone exists and acts from the necessity of his own nature. Freedom does not reside in the will nor in the absence of necessity or causal determination but rather in self-determination. It does not consist in choice but in the absence of compulsion by causes which lie outside one's own nature. Hence only an infinite being—a *causa sui* in Spinoza's sense—can be free.

Descartes on the other hand places freedom in the will and identifies it with the power of choice. The faculty of will he writes consists alone in our having the power of choosing to do a thing or choosing not to do it or rather it consists alone in the fact that in order to affirm or deny pursue or shun those things placed before us by the understanding we act so that we are unconscious that any outside force constrains us in so doing. Descartes seems to conceive the will as cause of itself in its acts of choice. But he does not attribute to the human will the autonomy Spinoza ascribes to God. The knowledge of the understanding he

writes, "should always precede the determination of the will" and in another place he says that our will impels us neither to follow after nor to flee from anything except as our understanding represents it as good or evil.

In order to be free Descartes explains that it is not necessary that I should be indifferent as to the choice of one or the other of two contraries but contrariwise the more I lean to the one—whether I recognize clearly that the reasons of the good and the true are to be found in it or whether God so disposes my inward thought—the more freely do I choose and embrace it. The will always retains the power of directing itself towards one side or the other apart from any determination by the understanding. The human will is in this sense always undetermined from without though it is not always indifferent to the alternatives confronting it. It is indifferent Descartes holds only when a man does not know what is the more true or the better or at least when he does not see clearly enough to prevent him from doubting about it. Thus the indifference which attaches to human liberty is very different from that which belongs to the divine.

THE DENIAL OF FREE WILL in the tradition of western thought seems to follow from the principle that every happening must have a cause. In the sphere of human conduct voluntary acts are no less determined effects of prior causes than involuntary acts. Though both are equally necessitated the difference between the voluntary and the involuntary according to Hobbes, Locke and Hume consists in the fact that when a man acts voluntarily he does what he himself has decided to do.

The fact that his decision to act in a certain way is itself caused does not in the opinion of these writers abolish the freedom of his action but only the freedom of his will. If freedom is attributed not to a man's will but to the man who can do what he wills then these writers think there is no conflict between freedom and necessity—or between freedom and the universal reign of causality. For them freedom is abridged only by external forces which coerce a man to act contrary to his wishes or constrain him from acting as he wills. Freedom in this sense is incompatible only with exterior com-

pulsion not with the inner causal determination of every act of the will.

To those who deny free will it does not seem to be an entirely satisfactory answer to say as Descartes does that we are immediately conscious of our freedom of choice. In the Third Set of Objections urged by Thomas Hobbes against Descartes Objection VII (which is directed against Meditation IV wherein Descartes discusses free will) contains this statement: "We must note here also that the freedom of the will has been assumed without proof and in opposition to the opinion of the Calvinists." In reply to this Descartes merely repeats his original statement of the evidence for free will.

I made no assumption concerning freedom he writes which is not a matter of universal experience. Though there are many who looking to the divine foreordination cannot conceive how that is compatible with liberty on our part nevertheless no one when he considers himself alone fails to experience that to will and to be free are the same thing (or rather that there is no difference between what is voluntary and what is free). To Gassendi who in another set of objections also denies the indeterminateness of the will Descartes replies: "These matters are such that anyone ought to experience them in himself rather than be convinced of them by ratiocination. Refuse then to be free if freedom does not please you. I at least shall rejoice in my liberty since I experience it in myself and you have assailed it not with proof but with bare negations merely."

The experience of free will is no proof either the opponents reply for the experience is open to the suspicion that it is illusory rather than real. It may be Hume suggest only a false sensation or seeming experience which we have of liberty or indifference in many of our actions. We suffer this illusion even foisted upon ourselves he further suggests because we are motivated by the fantastical desire of showing liberty. In the same vein Freud later discounts objections to the determinism of psychoanalysis on the part of those who refuse to recognize the hidden causes which control their actions. You have an illusion of a psychic freedom within you which you do not want to give up he says. But this deeply rooted belief in psychic freedom and choice must be given up.



because it is quite unscientific. It must give way before the claims of a determinism which governs even mental life.

THE DILEMMA OF FREE WILL OR determinism does not seem to other writers to be so easily resolvable. All theory is against the freedom of the will, says Dr Johnson: all experience for it. Tolstoy states the dilemma in similar terms. Regarding man as a subject of observation by the rational methods of the sciences, Tolstoy writes: we find a general law of necessity to which he (like all that exists) is subject. But regarding him from within ourselves as what we are conscious of, we feel ourselves to be free. This consciousness is a source of self-cognition quite apart from and independent of reason. Through his reason man observes himself, but only through consciousness does he know himself. You say: I am not free. But I have lifted my hand and let it fall. Everyone understands that this illogical reply is an irrefutable demonstration of freedom. That reply is the expression of a consciousness that is not subject to reason.

The problem cannot be solved, Tolstoy thinks, by ignoring one side of the question. To do that is to put the problem on a level on which the question itself cannot exist. In our time, Tolstoy continues, the majority of so-called advanced people—that is, the crowd of ignorant masses—have taken the work of the naturalists who deal with one side of the question for a solution of the whole problem. But to admit that, from the point of view of reason, man is subject to the law of necessity, does not advance by a hair's breadth the solution of the question, which has another opposite side based on the consciousness of freedom. Not only does this unshakable irrefutable consciousness of freedom, uncontrolled by experiment or argument, constitute for Tolstoy the other side of the question, but it is also for him that without which no conception of man is possible.

William James takes a somewhat different view of the dilemma of free will or determinism. Conceiving the act of free will in terms of the exertion of an effort on our part which is not determined by its object, James is willing to admit that our consciousness of freedom may be a

delusion. Even in effortless volition we have the consciousness of the alternative being also possible. This is surely a delusion here, he writes, why is it not a delusion everywhere? Hence it seems to him that the question of free will is insoluble on strictly psychological grounds.

But if the existence of free will cannot be proved from experience, neither in his opinion can determinism be scientifically demonstrated.

The most that any argument can do for determinism, he says, is to make it a clear and seductive conception, which a man is foolish not to espouse so long as he stands by the real scientific postulate that the world must be one unbroken fact, and that prediction of all things without exception must be ideally if not actually possible. For those who accept this postulate, a little fact like effort can form no real exception to the overwhelming reign of deterministic law.

Yet it remains a postulate, and postulation is not proof. Furthermore, there is a moral postulate about the Universe, which would lead one to espouse the contrary view: the postulate that *what ought to be can be, and that bad acts cannot be fated, but that good ones must be possible in their place*. As scientific law and prediction seem to call for the postulate of determinism, so moral responsibility and the genuineness of moral options seem to demand free will.

Hume recognizes that it may be said that if voluntary actions be subjected to the same laws of necessity with the operations of matter, there is a continued chain of necessary causes, pre-ordained and pre-determined, reaching from the original cause of all to every single volition of every human creature. But he does not think that the assertion of no contingency anywhere in the universe, no indifference, no liberty, requires us to give up notions of moral responsibility and to abstain from making judgments of praise or blame concerning human actions. The mind of man is so formed by nature, he writes, that upon the appearance of certain characters, dispositions, and actions, it immediately feels the sentiment of approbation or blame. The characters which engage our approbation are chiefly such as contribute to the peace and security of human society, as the characters which excite blame are

chiefly such as tend to public detriment and disturbance

In Hume's opinion, remote and uncertain speculations concerning the causation of human character or conduct or concerning the general structure of the universe do not affect the sentiments which arise from the natural and immediate view of the objects. Why should not the acknowledgment of a real distinction between vice and virtue be reconcilable to all speculative systems of philosophy as well as that of a real distinction between personal beauty and deformity? James takes the exactly opposite view. A doctrine of necessity or determinism is for him incompatible with moral responsibility or with the distinction between virtue and vice. Holding that free will is indispensable to the moral life, James chooses the alternative of freedom. In doing so he confesses that the grounds of his opinion are ethical rather than psychological.

He goes one step further into what he calls the logic of the question. Since postulation is not proof—since a postulate is not an undeniable axiom but an expression of what James elsewhere calls the will to believe—the kind of dilemma which is formed by conflicting postulates can be resolved only by the exercise of free choice. The alternatives of free will and determinism constitute that kind of dilemma for James and so it seems to him quite proper that the first act of free will should be to believe in free will.

When scientific and moral postulates vary thus with each other, he writes, and objective proof is not to be had, the only course is voluntary choice for skepticism itself if systematic is also voluntary choice. Hence belief in free will should be voluntarily chosen from among all other possible beliefs. Freedom's first deed should be to affirm itself. We ought never to hope for any other method of getting at the truth if indeterminism be a fact. Doubt of this particular truth will therefore probably be open to us to the end of time and the utmost that a believer in free will can ever do will be to show that the deterministic arguments are not coercive. That they are seductive, James concludes. I am the last to deny nor do I deny that effort may be needed to keep the faith in freedom when they press upon it upon the mind.

IN THE TRADITION OF THE great books not all who affirm free will think that to do so requires them to deny the universal reign of causality in nature nor do they base their affirmation on our immediate consciousness of free choice or make it an act of faith—a pragmatic postulate. Kant for example explicitly disclaims that freedom is a matter of faith. It is the only one of all the ideas of pure reason, he says, whose object is a matter of fact. This means for him that its objective reality can be proved. In contrast, the existence of God and the immortality of the soul are matters of faith, by which Kant means that they must be postulated by the practical reason as conditions necessary for the conceivability of the *summum bonum* which the moral law commands us to seek.

In order to understand Kant's proof of freedom it is necessary to remember that he conceives the freedom of the will in terms of its autonomy and its autonomy in terms of the fact that the practical reason, with which the pure will is identical, legislates for itself in proclaiming and obeys only itself in upholding the moral law. Autonomy of the will, he writes, is that property of it by which it is a law unto itself. Now the idea of freedom is inseparably connected with the conception of autonomy, and this again with the universal principle of morality. The moral law, Kant goes on, expresses nothing else than the autonomy of the pure practical reason, and this self-legislation of the pure and therefore practical reason is freedom in the positive sense.

In saying that a free will and a will subject to moral laws are one and the same, Kant thinks that he may be suspected of circular reasoning in that he appears to make freedom a condition of morality and at the same time to infer freedom from the existence of the moral law. There is no question that for him freedom must be the foundation of all moral laws and the consequent responsibility. But he explains no inconsistency results from calling freedom the condition of the moral law and affirming that the moral law is the condition under which we can first become conscious of freedom, if it be understood that freedom is the *ratio essendi* [ground of being] of the moral law while the moral law is the *ratio cognoscendi* [ground of knowing].

We know that our will is free from knowing the existence of the moral law. We know that the moral law exists for otherwise reason could never judge as it does that we ought to have done what we did not do. It is not freedom but the moral law of which we become directly conscious (as soon as we trace for ourselves maxims of the will). This Kant says first presents itself to us and leads directly to the concept of freedom. Whenever a man judges that he can do a certain thing because he is conscious that he ought then according to Kant he recognizes that he is free a fact which but for the moral law he would never have known.

The freedom which Kant thinks can be directly deduced from the moral law is a very special kind of causality. In the sensible world of nature each cause is in turn the effect of some prior cause. None is the first or unconditioned cause an uncaused cause. But for Kant freedom is a faculty of absolute spontaneity and consists in the unconditioned causality of the cause a causality capable of producing effects independently of and even in opposition to the power of natural causes and capable consequently of spontaneously originating a series of events.

How are these two modes of causality—which Kant calls the causality of *nature* and of *freedom*—compatible with one another? To affirm both would appear to get us into the antinomy in which the thesis that causality according to the laws of nature is not the only causality a causality of freedom is also necessary is contradicted by the antithesis that there is no such thing as freedom but everything in the world happens solely according to the laws of nature. Yet Kant thinks he can show that this antinomy is based upon a mere illusion and that nature and freedom are at least *not opposed*.

It would be impossible he admits to escape this contradiction if the thinking subject which seems to itself free conceived itself in the same sense or in the very same relation when it calls itself free as when in respect to the same action it assumes itself to be subject to the laws of nature. But the contradiction is only apparent or illusory if man belongs to two worlds—the sensible world of natural phenomena and the supersensible world of intelligible beings or nou-

mena. The notion of a being that has free will writes Kant is the notion of a *causa noumenon*—of a cause which does not operate under the temporal conditions of natural causality. The notion of causality as *physical necessity* concerns only the existence of things so far as it is determinable in time and consequently as phenomena in opposition to their causality as things in themselves.

To remove the apparent contradiction between freedom and the mechanism of nature in one and the same action we must remember that the necessity of nature which cannot co-exist with the freedom of the subject appertains only to the attributes of the thing that is subject to time conditions consequently only to those of the acting subject as a phenomenon.

But the very same subject Kant continues being on the other side conscious of himself as a thing in himself considers his existence also in so far as it is not subject to time condition and regards himself as only determinable by laws which he gives himself through reason.

In the latter mode of supersensible existence man exercises the causality of a free will. He is not in any way subject to the natural necessity which governs all physical things. Yet the two worlds—the moral world of freedom and the physical world of necessity—meet in the same act. The rational being Kant explains can justly say of every unlawful action that he performs that he could very well have left it undone although as appearance it is sufficiently determined in the past and in this respect is absolutely necessary.

THE APPARENT CONFLICT BETWEEN freedom and nature arises for Kant because he conceives the act of free will to be absolutely spontaneous. It is as uncaused as the swerve of the atoms (discussed in the chapter on CHANCE) on which Lucretius bases the existence of free will. There is another conception of freedom that does not attribute to free will any special character which brings it into conflict with ordinary causality. It does not belong to liberty. Aquinas thinks that what is free should be the first cause of itself. Not only is God the ultimate cause of what a man freely chooses to do as He is the first cause of every natural event but the will as a natural faculty of man never moves itself to

operation. It is always moved by the reason even in its acts of choice and so these acts wherein the will is free are also caused.

Where Kant identifies will with free will (which implies that the will is free in all its acts) Aquinas distinguishes between those acts of the will which are necessitated and those which are free. He quotes Augustine to the effect that natural necessity does not take away the liberty of the will for that liberty exists only in the will's choice of means not in its volition of the end. Just as the intellect naturally and of necessity adheres to first principles Aquinas explains so the will adheres to the last end. And just as the intellect assents of necessity to those propositions which have a necessary connection with first principles namely demonstrable conclusions so the will adheres of necessity only to those things which have a necessary connection with happiness. With regard to all else—the whole realm of particular goods which are merely contingent means—the will is not necessitated and so its choice among them is free.

Although Aquinas says that unless man has free choice counsels exhortations commands prohibitions rewards and punishments would be in vain he does not postulate free will as an indispensable condition of moral conduct. Rather he shows how reason in causing the will's choices at the same time leaves them free. The root of liberty he writes is the will as the subject thereof but it is the reason as its cause. For the will can tend freely towards various objects precisely because the reason can have various perceptions of good. When for example the deliberating reason is indifferently disposed to opposite things the will can be inclined to either. The freedom of the will's choice with respect to particular means thus lies in the fact that with respect to all contingent matters the judgment of reason may follow opposite courses and is not determinate to one.

In all particular goods Aquinas writes the reason can consider an aspect of some good and the lack of some good which has the aspect of evil and in this respect it can apprehend any single one of such goods as something to be chosen or to be avoided. The perfect good alone which is happiness cannot be apprehended

ed by reason as an evil or lacking in any way. Consequently man wills happiness of necessity nor can he will not to be happy or to be unhappy. Now since choice is not of the end but of the means it is not of the perfect good which is happiness but of particular goods. Therefore man chooses not of necessity but freely.

Like Aquinas Locke holds that to be determined by our own judgment is no restraint to liberty. But where Locke thinks the constant determination to a pursuit of happiness no abridgment of liberty Aquinas holds that because man wills happiness of necessity his will is not free in the volition of its natural end. Yet Locke does mention the case wherein a man is at liberty in respect of willing—the case in which a man may suspend the act of his choice from being determined for or against the thing proposed till he has examined whether it be really of a nature in itself and consequences to make him happy or not.

In this type of case Aquinas locates what is peculiar to the causality of freedom. Sometimes the judgment of reason is determined by its object as when it contemplates the final end of actions. But when it deliberates about alternative means (which are both particular and contingent) reason can judge either way. What determines it to judge this way rather than that? Aquinas' answer is that such judgments of the reason are voluntary in contrast to reason's involuntary assent to self-evident truths wherein it is determined entirely by the object being considered. But if a voluntary judgment is one in which the will determines the reason's assent and if reason's judgments concerning means are voluntary in this sense then the act of the reason which causes the will's act of choice is itself an act caused by the will. The will's choice is therefore not uncaused but as Aquinas conceives it the way in which it is caused makes it self-determining and to this extent free.

THE GENERAL THEORY of the will figures most prominently in the theology of Aquinas and in the philosophy of Kant and Hegel. They not only present the most elaborate analyses of its nature and its relation to reason but in the tradition of the great books they are the most stalwart defenders of its freedom. Their differ-

ences in principle and in reasoning may how ever obscure the common ground they share

This may be seen in their conception of freedom. Aquinas does not attribute autonomy or spontaneity to the will. Yet in his view of free choice as a self-determining act of the will there is something analogous to Kant's autonomy and where Kant makes the pure will essentially free and spontaneous, Aquinas holds that the will with respect to willing or not willing is always free and inviolable. It is absolutely within the power of the will, he writes, not to act and not to will. He does not try to explain such freedom of exercise in the same way as freedom of choice.

It is only with regard to the latter that Aquinas appeals to the causal reciprocity between reason and will to show how the will's act of choice can be both free and caused. The kind of causation which Aquinas thinks takes place in free choice—the will determining the reason to make the practical judgment by which it is itself determined—seems to involve a circularity or perhaps simultaneity in action and reaction. If this is possible only because reason and will are *spiritual* powers, then here too there is some likeness to Kant's theory of the will's action as belonging to the supersensible world rather than to the domain of physical movement.

On one other point they tend to agree even more plainly. Free choice, writes Aquinas, is part of man's dignity. Man's dignity for Kant—his membership in what Kant calls the kingdom of ends—is rendered possible by the freedom of the will. But though they share this opinion of the source of human dignity in

rationality and freedom, they do not draw the same moral consequences from their affirmation of free will as pivotal in human life.

Aquinas like Aristotle does not find moral goodness only in the will. On the contrary, the rectitude of the will depends on the goodness of the end it adheres to and the means it chooses. But like the Stoics, Kant makes the will the sole repository of moral goodness.

As Epictetus says that all good and evil lie in man's will and that the morally neutral sphere is in the region outside the will's control, so Kant begins his moral philosophy with the statement: Nothing can possibly be conceived in the world or even out of it which can be called good without qualification except a Good Will. In his view, a good will is good not because of what it performs or effects, not by its aptness for the attainment of some proposed end, but simply by virtue of the volition that it is good in itself. In another place, he adds that though not indeed the sole and complete good, the will good in itself must be the supreme good and the condition of every other, even of the desire of happiness.

These fundamental issues concerning the will in moral philosophy are more fully treated in the chapter on Duty. The problems of the will in political theory are considered in the chapters on Law and State—especially those problems which involve the concept of the sovereign will and the distinction of the particular will and the general will, the majority will and the will of all. The strictly theological problems concerning God's freedom and man's freedom in relation to God's will are also reserved for treatment elsewhere.

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- 2c The acts of the will
- (1) The classification and order of the will's acts means and ends
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To find the passage cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HO 1ER *Iliad* BK II [265-283] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

PAGE SECTIONS. When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAS *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left-hand side of the page the letters c and d to the upper and lower halves of the right-hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left-hand side of page 163 and ends in the upper half of the right-hand side of page 164.

AUTHOR DIVISIONS. One or more of the main divisions of a work (such as PART BK CH SECT) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* BK II [65-83] 12d.

BIBL REF REFERENCES. The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7 45—(D) II *Esdras* 7 46.

SYMBOLS. The abbreviation esp calls the reader's attention to one or more especially relevant parts of a whole reference. *p im* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

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- 11 DANTE *Divine Comedy* HELL I [1] I [21] 1a  
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- 30 H. CON. *Ad Cement of Learning* 66c M
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- 8 ARISTOTLE *Soul* BK III CH [433 21 31]  
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- 1a 4b PURGATORY XVIII [1 75] 79d 80c  
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22 CH UGGER *Manciple's Tale* [17 097 144] 490a Ti  
23 HOBBS *Leviathan* PART I 64a c  
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49 DARWIN *Descent of Man* 310c d 316a 317a 592b d  
51 JAMES *Psychology* 796b 797b 799a b 808b 814b 829b 830a  
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- 9 ARISTOTLE *Ethics* BK I CH 2 [1 94 18 2] 339b CH 4 [1 95 13 0] 340b BK III CH 2 [1111b 29] 357c d C I 3 [112b 13 1113 12] 358c 359a CH 5 [1113 3 5] 359 BK VI CH 2 387d 388b  
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- 8 ARISTOTLE *Soul* BK III CH 10 [433 13 31] 665d 666a [433<sup>b</sup> 5 18] 666b c  
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19 AQUINAS *Summa Theologiae* PART I Q 20 A 1 ANS AND REP 3 120a 121b PART II QQ 8 12 655a 672c  
42 KANT *Fund Prin Metaphysic of Morals* 256a b 265c 267b esp 266a c 271d 279d esp 273d 277b / *Practical Reason* 327d 329a / *P f Metaphysic of Elements of Ethics* 367c / *Judgement* 586a b 594b 595d  
53 JAMES *Psychology* 767a 798a B P 767a 768a 788a B 790a 791b 792b 796a b

2c(3) The several acts of the will with respect to means their antecedents and consequences

- 8 ARISTOTLE *Soul* BK III CH 10 [433 13 31] 665d 666a  
9 ARISTOTLE *Ethics* BK III CH 2 3 357b 359a BK VI CH 2 387d 388b  
19 AQUINAS *Summa Theologiae* PART I Q 59 A 3 REP 1 308b 309a Q 60 A 311a d A 3 ANS 311d 312b Q 83 A 3 438d 439c PART II Q 9 A 3 ANS AND REP 1 659c 660a A 4 A 3 660a d QQ 13 17 672d 693d  
42 KANT *Fund Prin Metaphysic of Morals* 265c 267d esp 266c 267d / *Judgement* 386 b  
53 JAMES *Psychology* 767a 790a esp 767a 768a 827a 835a

3 The functioning of will in human conduct and thought

3a The role of the will in behavior

- 8 ARISTOTLE *Metaphysics* BK VI CH 1 [1025<sup>b</sup> 22 25] 547d BK IV CH 5 [1047<sup>b</sup> 35 1048 24] 573b c CH 7 [1049 5 8] 574c / *Memory and Remembrance* CH 2 [453 15 31] 695b d  
9 ARISTOTLE *Motion of Animals* CH 6-11 235d 239d / *Ethics* BK III CH 1 5 355b d 361a BK VI CH 2 387d 388b  
12 LACRTEUX *Nature of The Good* BK II [251 293] 18b d BK V [977 891] 55d  
11 EPICTETUS *Discourses* BK I CH 11 118d 118d  
18 A C SYL B C *Lessons* BK VIII PAR 19-27 58b 60c  
19 AQUINAS *Summa Theologiae* PART I Q 14 A 8 AN 82c 83b Q 18 A 3 ANS 106b 107c Q 19 A 4 ANS AND REP 4 111c 112c Q 20 A 1 R 1 120 121b Q 25 A 1 REP 4 143d 144c PART II Q 1 609a 615c Q 3 A 4 REP 3 625a 626b Q 6 644a 651c Q 9 A 1 ANS AND REP 3 657d 658d B 1 A 1 R P 2 666b d 667a B 12 A 1 ANS 669c 670b Q 13 AA 15 675a 676b QQ 16-17 684 693d Q 18 A 6

- ANS 697d 698c A 7 ANS 698c-699c Q 20  
712a 716d Q 21 A 2 718a d
- 23 H BRES *Lexithan* PART I 64a-c PART IV  
272
- 30 B COV *Adancement of Learning* 55b d  
67 b
- 35 LOCKE *Human Understanding* BK I CH XXI  
SECT 5 179c BK IV CH X SECT 19 354 -c
- 35 H E *Human Understanding* SECT VII DIV  
51-5 472b-473c DIV 58 476 b
- 42 K T *Pure Reason* 169 170a / *Fund Prin  
Metaphy of Morals* 264d 265a 275b  
279b d 287d esp 282b 283d / *Practical Reso*  
209 293d [in 3] 296a d 307d 314d 331c  
337a c / *Intro Metaphysic f Morals* 383 d  
85a m / *Judgement* 463a 467 571c 572a  
587 588a 607c
- 46 HE EL *Phy of Right* PART I par 7  
31 P RT II par 115 42b c / *Philo phy of  
History* INTRO 165a 166b
- 47 J MEX *Psy hology* 291 295a 790a 798b esp  
792a b 794a 795a 797b 798a 807a 808a
- 54 F EL *Ego a d id* 715c 716a / *New Intr duc  
tory Lectures* 838b
- 3 (1) The d st action between the voluntary  
and the involuntary the conditions of  
volunt rin ss comparison of men and  
animals w th respect to oluntary be  
ha or
- 7 PLAT *Laws* K IX 746a 748d
- 8 A ISOTOLR *Met phys* s BK V CH 5 [1 15  
27 b] 535d BK IX CH 5 573a-c / *Soul* BK III  
CH 9-1 664d 667a
- 9 A I TOTL *Motion f Animals* CH II 239a d  
/ *Eth* s BK I CH I [1 09<sup>b</sup>3] -CH 2 [1 s<sup>b</sup>9]  
355b d 357b CH 5 359 361a K V CH 8  
[135 15]-CH 9 [113<sup>b</sup>14] 383a 384d K VI CH  
2 [139 17 1] 387d / *Rt s* BK I CH I  
[368<sup>b</sup> 17] 611d CH 3 [137<sup>b</sup>27-37] 618a
- 10 GALEN *Natu al F cult* BK I CH 173a-c
- 12 EPICTETUS *D s omes* K III CH 7 183c  
184a
- 17 PLOTINU *Sixth Ennead* TR III CH 4 42d  
344d
- 19 AQUINAS *Summ The lgi* ART Q 18  
A 3 ANS 106b 107c B 9 A I REP 2 118d  
119d Q 41 A 2 218c 219d Q 47 A I RE I  
256a 257b Q 81 A 3 ANS and R 430  
431d Q 82 A I ANS d RE 3 431d 432c  
Q I 5 A 4 R B 3 541 542a P RT II Q I  
A 2 AN 610b 611b Q 6 644 651 Q 7 A 2  
NS 652d 653 Q 9 A 4 REP 660a d Q II  
A 2 ANS 667b d Q 13 A 2 673 674 Q 5  
A 2 682a c B 6 A 2 684d 685b Q 18 A 6  
NS 697d 698 Q 19 A 6 AN and P 3  
707 708 Q 2 A 2 R 3 712d 713c B I  
A 2 ANS 718a d
- 20 AQUINAS *Summ Th logia* ART II Q 72  
A 3 ANS d RE I 2 113b 114
- 23 H BRES *Lexithan* PART 61a b 64b-c  
87c 93c
- 28 H RVEY *On Animal Generation* 456c-458a  
passim
- 33 PASCAL *Provinci l Letters* 24b-26b
- 35 LOCKE *Human Underst nding* BK II CH XXI  
SECT 5 179c SECT 7 II 180a d
- 38 ROUSSEAU *In quality* 337d 338a
- 42 KANT *Pure Reason* 164a 165c esp 164b-c  
234c 236a esp 235c d 236d 237a / *Fund Prin  
Metaphysic of Moral* 264d 265a 279b d  
282d 283b 284d 285a 286c 287d / *Practical  
Reason* 296a d 307d 314d 331c 337a c /  
*Intro Metaphysic of Morals* 386b d / *Judge  
ment* 587a 588a
- 46 HEGEL *Pr l s phy of Right* PART II par 115  
42b par 117 42c d par 139 48d-49b ADD  
TIONS 5 116d 117a 10 117d 118a 90 130b d
- 49 DARVIN *Orig n f Spec* s 120b-c / *D scent  
of Man* 291b 292 294c pass m
- 50 MARY C *pital* 85c d
- 51 TOLSTOY *War and Peace* BK XII 548d 549d  
BK XII 578b 579d EPILOGU II 689c 690a
- 53 JAMES *Psy hology* 4a 7a 8a b 9a 17b esp  
11b 12a 13a 14b 17 b 47b 52b esp 49a B  
51a 52a 71b [in 1] 269a 274a esp 272a 273a  
291a 295a sp 293a 294b 295a 691 b 704a  
706b 767b 790a esp 767b 768a 790a 827a  
835a sp 827b
- 54 FREUD *Origin and Development of Psycho  
Analysis* 13a-c / *General Introduction* 454b  
476 passim esp 473b d
- 3a(2) The range of purposive cond m the  
rel uon of h bit nd instinct to the  
voluntary
- 8 AR TOTLE *Met physics* BK IX II 5 573a c /  
*S l* BK II CH 5 [417<sup>a</sup>21 418 3] 647d 648  
BK III CH 4 [4 9<sup>b</sup>5-9] 661d
- 9 ARISTOTLE *Eth* s BK II CH 5 359c 361a
- 18 AUGU TIN *Confessio s* BK VIII pr o  
55 56b
- 19 AQUINAS *Summ Theologica* PART I Q 18  
A 3 AN 106b 107c Q 83 A 2 ANS 438a d  
Q 115 A 4 AN 589d 590c PART II Q 6 A 4  
R 3 647b 648a Q I A 5 ANS and REP 3  
672a Q 13 A 673c 674c
- 20 AQUINAS *Summa Theologica* PART I Q 50  
A I REP I 6a 7b A 3 8b 9a A 5 RE I 3  
10b d Q 71 A 4 ANS nd REP 3 108b 109  
Q 91 A REP to CONTR RV 221a d
- 25 MON A GN *Ess ys* 39 40a 179b c
- 28 H RVEY *On Anm l Generat* 456 458a  
passim
- 42 KANT *F d P m Metaphysic f Moral* 256d  
257a 264d 265a 279b d 287d esp 282b 283d  
/ *Practi al Reason* 316 317a / *Pr f Meta  
phys l Elements f Eth* cs 378a b
- 43 M LL *Utilit m m* 463c 464d
- 44 BO W LL *J hns* 135 136
- 46 H M *Ph los phy of Right* INTRO par 17 16c  
PART I par 41 22 d PA T II par 3 44a b  
ADD ION II 118a 78 128 d
- 49 DARWIN *Des cent f Man* 288b d

(3a) *The role of the will in behavior* 3a(2) *The range of purposive conduct the relation of habit and instinct to the voluntary*

- 51 To STOY *War and Peace* EPILOGUE I 665a d  
 J MES *Psychology* 8a 9a 71b [in i] 74b 78b  
 esp 75b 77a b 80a 90b 93a esp 92a 93a  
 691a b 704a 706b esp 706a b 767b 768a  
 774a 788a 789a 790b 791a

3b The role of the will in thought

- 8 ARISTOTLE *Soul* BK II CH 5 [417<sup>b</sup> 21<sup>b</sup>] 647d  
 648a BK III CH 4 [429<sup>b</sup> 5-9] 661d / *Memory and Reminiscence* CH 2 [453 15-1] 695b d  
 12 LUCRATIUS *Nature of Things* BK IV [777 817] 54b d  
 18 AUGUSTINE *Confessions* BK VIII par 10 21 58c 59a  
 19 AQUINAS *Summa Theologica* PART I II Q 6 A 7 REP 3 650a d Q 9 A 1 ANS and REP 3 657d 658d Q 10 A 2 ANS 663d 664d Q 11 A 1 REP 1 666b d 667a Q 13 A 4 REP 1 675a Q 14 A 1 RE 1 677b 678 Q 16 A 1 R 3 684b d A 4 ANS 686a d Q 17 A 1 ANS 686d 687c Q 19 A 3 REP 3 704c 705a  
 31 DE CARTES *Meditations* III 83b c IV 89a 93a *passim* / *Objections and Replies* 125c 126b 167a B 215d 216  
 31 SPINOZA *Ethics* PART II PROP 49 D ON T- S HOL 391c 392  
 33 PASCAL *Pensées* 99 191a / *Geometrical Demonstration* 439b 441b  
 35 LOCKE *Human Understanding* BK II CH XV SECT 5 179c EC 1 180d 181a S CT 17 19 182a SE T 38 187c BK IV H X II 363c 364b H XX SECT 11 16 393a 394a  
 35 HUME *Human Understanding* ECT VI DIV 53 473c 474b  
 42 KANT *Pure Reason* 240b 243  
 46 HEIDEGGER *Philosophy of Being* INTRO par 5-9 13a 14d par 13 15c d  
 53 JAMES *Psychology* 381b 385b 666b 667a 818b 820b esp 820a

3b(1) The distinction between knowledge and opinion in relation to the willful in thought the will to believe and wishful thinking

- 12 LUCRATIUS *Nature of Things* BK IV [777 817] 54b d  
 19 AQUINAS *Summa Theologica* PART I Q 13 A 4 REP 2 675 c Q 7 6 ANS 690b d  
 20 AQUINAS *Summa Theologica* PART II Q 67 A 3 ANS 83b 84d PART II Q 2 A 391a 392a  
 24 RABELAIS *Gargantua and Pantagruel* K II 148a 150d 154a 156c 159d 163 166 171a 175c 178a  
 28 HEBER *Motion of the Heart* 283b  
 30 BACON *Advancement of Learning* 27a B 38d 39a  
 31 DESCARTES *Objections and Replies* 125c 126b

- 31 SPINOZA *Ethics* PART I APPENDIX 369b 372d  
 35 LOCKE *Human Understanding* BK IV CH XIII 363c 364b CH XX SECT 15 16 393a 394  
 42 KANT *Pure Reason* 240b 243c / *Judgement* 601d  
 43 MILL *Liberty* 269c 270c  
 51 TOLSTOY *War and Peace* BK VIII 585b  
 53 JAMES *Psychology* 636a b 644a b 652 659a *passim* esp 653a 654a 659b [in i] 660b 661b 820a b  
 54 FREUD *War and Death* 760d 761a / *Introductory Lectures* 819b c 874c d 882a b

3b(2) The will as cause of error

- 31 DE CARTES *Meditations* IV 89a 93a c p 90b 91b / *Objections and Replies* 167a b 215d 216c  
 31 SPINOZA *Ethics* PART II PROP 49 SCHOL 392c 393c

3b(3) Religious faith as dependent on an act of will or practical reason

- 18 AUGUSTINE *Confessions* BK I par 1 1a b BK VI par 6-8 36c 37c BK VIII par 10-12 55 56b par 18 57d 60a par 28 29 60d 61a  
 20 AQUINAS *Summa Theologica* PART II Q 2 A 1 RE 3 391a 392a AA Q 10 398c 400b Q 4 A 2 403d 404c  
 30 BACON *Advancement of Learning* 41b d  
 31 DE CARTES *Rules* III 4d 5a / *Objections and Replies* 125c 126b  
 33 PASCAL *Pensées* 52 219a 220a 268 25 222a 223b 84 223b 224a 287 224a b / *Geometrical Demonstration* 440a b  
 35 LOCKE *Tolerant* 15b  
 40 GEORGE DE LINCOLN *Fall* 296b c  
 42 KANT *Judgement* 604d 606d esp 606a d 607c 610a esp 607c  
 46 HEGEL *Philosophy of History* PART IV 350a b  
 51 TOLSTOY *War and Peace* K 196 198b  
 53 JAMES *Psychology* 652b 653a 661b 826b 827a

4 The divine will

- NEW TESTAMENT *Romans* I 12 / *Ephesians* I 9 II / *1 Timothy* 1 8 0  
 12 ECTYUS *De consuetudine* BK IV CH I 218b 219 CH 3 224d  
 18 AUGUSTINE *Confession* S BK VII par 6 44d 45a BK XVI par 1 92b K XII par 18 103a b BK XII par 5 111d / *City of God* BK X CH 7 303 BK XII CH 14 350d 351b CH 17 354a K XXII CH 2 587b 588a  
 19 AQUINAS *Summa Theologica* PART I Q 19-21 108d 127 Q 59 A 1 ANS 306c 307b A 2 ANS 307c 308b Q 60 A 1 RE 2 310b 311a Q 61 A 2 REP 1 315 316a Q 62 A 6 REP 1 322a d Q 63 A 1 ANS 325c 326c Q 66 A 2 AN 345d 347b PART II Q 1 A 2 REP 3 610b 611b Q 10 A 1 RE 2 662d 663d Q 19 A 9-10 709d 711d Q 39 A 2 REP 3 790d 791b

- 20 AQUINAS *Summa Theologiae* PART II Q 93  
4 REP 1 218b d Q 97 A 3 REP 1 237b 238b  
PART III Q 18 810a 815d Q 21 A 1 ANS 823d  
824d A 4 ANS 826b 827c PART III SUPPL.  
Q 72 A 3 ANS and REP 5 920c 922b
- 21 DA TE *Dune Comedy* = RADISE III [64-90]  
110 b XIX [86-9] 135d 136
- 23 HO S *Letia ha* PART II 113b c 162c
- 30 B CON *Ad ancement of Learnis* g 38a
- 31 DESCARTES *Objections and Repl* s 228a-c
- 31 S INOZA *Ethics* P RT I DEF 7 355b PROP  
16-17 362a 363c PRO 32 35 367a 369a  
A EN 369b 372d PART II PROP 3 SCHOL  
374b c ART IV PRE 422b d 424a
- 32 M LYON *Paradise Lost* BK III [80-134] 137a  
138a BK VII [39-171] 220a 221a
- 33 BERKELEY *Human knowl d e* SECT 29 33  
418c 419a
- 33 G B ON *Decline and Fall* 150c 151b
- 42 HANT *Fund Prin Metaphysic of Morals*  
265b-c 276b 277a / *Pactic l Reason* 303b  
304 321b-c 324b 325 325d 326a 328b
- 33 TOLSTOY *War and Peace* EPILOGUE I 675a  
677b 680b c 684b d

## 4 The relation of the divine will and intellect

- 33 AUGUSTINE *Confessions* BK XIII par 9  
115 d / *City of God* d BK XIII CH 18 354a d
- 19 AQUINAS *Summa Theologiae* P RT I Q 4  
A 8 ANS and REP 82 83b Q 19 A 1 AN  
108d 109c A 2 RE 2 4 109c 110b A 3 REP 6  
110b 111 A 4 ANS and REP 4 111 112c A 6  
RE 2 113 114d A 15 M 1 118b d Q 21 A 1  
RE 124b 125b A 4 125c d Q 22 24 127  
143 Q 25 A 1 P 4 143d 144 Q 6 A  
REP 2 150 151a Q 27 A 3-5 155c 157c Q 50  
A 1 ANS 269b 270a Q 54 A 2 AN 285d 286c  
Q 59 A AN 307 308b Q 105 A R P 2  
538d 539c PART I Q 1 A 4 R M 1 612a  
613a

23 H B S *Leviathan* PART V 271b31 D SCART S *Objections and Repl* 228-c  
229c d31 S INOZA *Ethics* P RT PROP 17 362b 363  
20 3 33 367a 369a esp PROP 33 S HOL 2  
367 369a42 HANT *Fund Prin Metaphysic of Moral*  
265-c / *Practical Reason* 303b 304a 321b c  
324b 325a4b The freedom of the divine will the divine  
will in relation to the possible and the  
impossible

- O D TE TAM NT *Exodus* 33 9 / *Psalms* 135 6  
-(D) *Psalms* 34 6 / *Isaiah* 4 27 46 9-  
13-(D) *Isaiah* 5 4 4-7 46 9-1 / *Jeremiah*  
51 29-(D) *Jeremiah* 5 5 9 / *Daniel* 1 4 34 35  
-(D) *Daniel* 1 4 31 32
- N W T STAMENT *Matthew* 6 / *John* 5 21  
/ *Romans* 8 39 15-26 / *I Corinthians*  
2 8 / *Ephesians* 1 3 esp 1 9 1 / *1 Peter*  
1 18

9 ARISTOTLE *Ethics* BK VI CH 2 [1139<sup>b</sup> 11]  
388a b17 PLOTINUS *Sixth Ennead* TR VIII 342d 353d18 AUGUSTINE *Confessions* BK VII par 6 44d  
45a BK XIII par 45 123a / *City of God* BK V  
CH 10 215c 216c BK XVI CH 7-8 565d 568d  
BK XVII CH 30 617d 618a19 AQUINAS *Summa Theologiae* PART I Q 19  
AA 3 4 110b 112c A 10 117d 118b Q 22 A 3  
REP 3 130d 131c Q 23 A 5 REP 3 135d 137d  
A 6 REP 3 137d 138 Q 23 AA 3-6 145b 150a  
Q 41 A 2 218c 219d Q 46 A 1 R 9-10 250a  
252d M 47 A 1 REP 1 256a 257b Q 59 A 2  
ANS 307c 308b Q 60 A 1 REP 2 310b 311a  
Q 61 A 2 REP 3 315c 316a Q 6 A 5 REP 1  
394c 396a Q 104 AA 3 4 537b 538c PART  
I II P OLOGUE 609a c20 AQUINAS *Summa Theologiae* PART III SUPPL.  
Q 91 A 1 REP 2 1016b 1017c31 DESCARTES *Meditations* IV 90b / *Objections*  
a d *Replies* 228a c 229c d31 S INOZA *Ethics* PART DEF 7 355b PROP  
16-17 362a 363c esp PROP 17 SCHOL 362c  
363c PROP 32 35 367a 369 APPENDIX 369b  
372d PART II PROP 3 SCHOL 374b c P RT V  
REP 422b d 424a32 MILTON *Paradise Lost* BK VII [130-73] 220a  
221a / *Samson Agonistes* [30 329] 346 M35 LOCK *Human Understanding* d g BK II CH XVI  
SECT 50-51 191b-c35 B RK L Y *Human Knowledge* ECT 06  
433 d42 K NT *Practical Reason* 303b 304b / *Intro*  
*Metaphysic of Moral* 393 / *Judgement* 594d  
[in ]51 TOLSTOY *War and Peace* EPILOGUE II 684c d  
685c 693b

## 5 The freedom of the will

## 5a Interpretations of the meaning of free will

5a(1) The freedom of the will as consisting in  
a freely determined choice or free  
judgment of the reason18 AUGUSTINE *Confessions* BK X par 1 61c d /  
*City of God* d BK XVI CH 30 617c 61819 AQUINAS *Summa Theologiae* PART I Q 19  
A 117d 118b Q 59 A 3 308b 309a Q 62  
A 3 RE 2 319c 320b A 8 M 2 3 323c 324a  
Q 82 A RE 3 431d 432c M 8 3 326c 440b  
PAR -II Q A 1 ANS 509b 510b A ANS  
510b 511b Q 6 A A and REP 2 516a c  
Q 13 A 6 576c 577b Q 7 A 1 REP 2 586d  
587c21 DANTE *Divine Comedy* PURGATORY X I [52  
84] 77b d XVII I 75] 79d 8031 DESCARTES *Discourse* RT 49b d 50b /  
*Meditations* 90b 91b / *Objections* and  
*Replies* AX 01 II 132 141b 141d 22832 MILTON *Paradise Lost* BK III [80-134] 137a  
138a

5a Interpretations of the meaning of free will  
 5a(1) The freedom of the will as consisting in a freely determined choice or a free judgment of the reason)

33 PASCAL *Provincial Letters* 154b 159a

35 LOCKE *Human Understanding* BK II CH XVI  
 SECT 48-54 190c 192c passim SECT 57 193b c  
 SECT 73 198c 199c

38 ROUSSEAU *Inequality* 337d 338a

44 BOSWELL *Johnson* 392d 393a

51 JAMES *Psychology* 382a 787a 820b 822a esp  
 821b 822a 825a 826a

5a(2) The freedom of the will as consisting in the freedom of a man to act or not to act freedom from external constraints or coercions

23 HOBBS *Leviathan* PART I 59b 85c PART II  
 112d 113a

35 LOCKE *Human Understanding* BK II CH XVI  
 SECT 7 27 180a 184c SECT 57 193b c SECT 73  
 198c 199c CH XVII s CT 18 209a

35 HUME *Human Understanding* SECT VIII DIV  
 73 483c 484a

5a(3) The freedom of the will as consisting in a totally uncaused or spontaneous act

12 LUCRITIUS *Nature of Things* BK II [251 293]  
 18b d

31 SINOZA *Ethics* PART I DE 7 355b PRO 7  
 COROL 1 2 and SCHOL 362b 363c PROP 3  
 367a b PART II PROP 48 391a c

42 KANT *Pure Reason* 140b d 143a esp 141b d  
 142d 164a 165 167d 171a 237a b / *Fund  
 P Metaphysics of Morals* 279b d 280a 281c  
 283b 285a d / *Practical Reason* 292a 293b  
 296a b 301d 302a 304 b 307d 308 311a  
 b 327d 328a / *Intro Metaphysics of Morals*  
 383c d 386b d 392d 393c / *Judgment* 463a  
 465c 571c 572a

51 TOLSTOY *War and Peace* EPILOGUE II 69 c  
 694d

53 JAMES *Psychology* 223a b 388a 787a

5a(4) The freedom of the will as the autonomy of the reason legislating for itself the identity of pure will and free will

42 KANT *Pure Reason* 236d 237a / *Fund Prim  
 Metaphysics of Morals* 264d 265 279b d 287d  
 esp 280b-c 283d 285a / *Practical Reason* 291  
 293 296 d 297a 314d esp 302a d 307d  
 311d 314a d 326a b 327d 329 / *Intro  
 Metaphysics of Morals* 386d 387a c 390b d  
 391a 392d 393c / *Judgment* 463a 465c  
 571c 572a 587c d

46 HEGEL *Philosophy of Right* INTRODUCTION par 4 17  
 12d 16c par 3 sum esp par 4 12d 13a par 7 14 c  
 par 14 15 15d 16b par 22 17c d par 29 19  
 par 106-107 40a c ART III par 142  
 55 par 149 56b ADDITION s 4 116 d 7

117b c 1 118a c 17 119a 67-68 126d 127a  
 95 132b

5b Arguments for the freedom of the will

5b(1) Man's immediate consciousness of his freedom of choice reasons for the knowledge of its autonomy

18 AUGUSTINE *Confessions* BK VII par 5 44c d

31 D SCARTES *Objections and Replies* 141a b  
 216a

35 HUME *Human Understanding* SECT VIII DIV  
 72 483c d [fn 1]

38 ROUSSEAU *Inequality* 338a

42 KANT *Fund Prim Metaphysics of Morals*  
 283b d / *Practical Reason* 291b c 302a 303b  
 310b 311d / *Judgment* 604c d 606c 607c

44 BOSWELL *Johnson* 392d 393a

51 TOLSTOY *War and Peace* EPILOGUE II 68a  
 689b

53 JAMES *Psychology* 661a 797b 798b 820b  
 823a esp 821b 822a 848b 849a

5b(2) The freedom of the will as deriving from the indeterminateness of practical reason judging particular goods

9 ARISTOTLE *Ethics* BK III CH 3 357b-  
 359a

19 AQUINAS *Summa Theologiae* PART I Q 19 A  
 3 ANS 110b 111c Q 22 A 2 REP 4-5 128d  
 130d Q 59 A 3 ANS 308b 309 Q 1 A 2  
 432d 433c Q 83 A 1 436d 438a PA TI 11 Q  
 6 A 2 REP 2 646a c Q 10 A 1 REP 3 662d  
 663d AA 2 4 663d 666a c Q 13 A 6 676c  
 677b Q 17 A 1 REP 2 686d 687c A 6 ANS  
 690b d

20 AQUINAS *Summa Theologiae* PART II Q  
 109 A 2 REP 1 339c 340b

35 LOCKE *Human Understanding* BK II CH XVI  
 SECT 52 53 191d 192b c CT 57 193b-c  
 SECT 73 198c 199c

5b(3) The deduction of free will from the moral law or from the fact of pure practical reason

42 KANT *Pure Reason* 161a 171a 236d 237a /  
 I d *Prim Metaphysics of Morals* 279b d  
 287d esp 280b c 282b 283d / *Practical Reason*  
 291a b 302a 303b 304a d 307d 314d esp  
 310b 311d 331a 337 c 348b 349b / *Intro  
 Metaphysics of Morals* 390b d 391a

5b(4) Free will as pre-given to the postulation of free will as an indispensable condition of moral responsibility and action

42 KANT *Practical Reason* 291b d 348b 349b

43 MILL *Utilitarianism* 471d 472a

51 TOLSTOY *War and Peace* EPILOGUE II 68a  
 694d

53 JAMES *Psychology* 294a 295a 820b 827a  
 esp 822b 823a

5c Arguments against the freedom of the will  
free will as a violation of the course of  
nature or the reign of causality the im-  
possibility of proving free will

12 LUCRETII *De re of Things* BK III [251 293]  
18b-d

17 PLOTINUS *Third Enn ad TR* I 78a 82b

18 AU TINE *City of God* BK V CH 9-10 213b  
216c

19 AQUINAS *Summa Theologica* PART I Q 83 A  
1 REP 1-5 436d 438 PART I II Q 13 A 6  
RE 1 3 676c 677b

21 DANTE *Divine Comedy* PURGATORY XVI  
[52-84] 77b d

22 CH UCR *Nuns Priest's Tale* [15 238 256]  
456b-457a

23 HOES *Leviath n* PART II 113b

25 MONTIGN *Essays* 218c 219a

31 SPINOZA *Eth* s PART DEF 7 355b OP  
16-17 362 363c PROP 26-APPENDIX 365b  
372d PART II AOP 48 49 391a 394d PART  
III 395a d ART IV PREF 422b d-423b

35 LOCKE *Human Understanding* g BK II CH II  
SECT 14 108d 109 BK II CH XVI SECT 22 25  
183b-184b SECT 48 52 190c 191d passim esp  
s CT 49 190d 191a

35 HUNTS *Human Understanding* s T VIII  
478b 487

36 KANT *Pure Reason* 140b d 143a 164a 171a  
/ *Fu d Pr* *M t physc of M als* 279b d  
287d esp 282b 284d 285c 287b / *Practical*  
*Re o* 291a 293b 295a d 301d 302d 307d  
314d esp 310b 311d 331c 337a 340a 342d  
/ *Int o Metaphys of Mor l* 390b d 391a /  
*Judgment* 571 572

44 BOSW L J h n 392d 393a

51 TOLSTOY *War and Peace* EPILOGUE II 692c  
696d

51 JAMES *Psychology* 291a 295b esp 293a 294a  
295a 822b 826 848b 849a

54 FRUD *Origin d Development f Psycho*  
*Anal* s 13 / *General Introduction* 454b =  
462d 486d

5 The analysis of the will's range of freedom

6a The limitations on the freedom of the will  
the distinct action between acts of the will  
which are necessitated and acts of the  
will which are free

9 ARISTOTLE *Eth* s BK III II 2 357b 3 8a  
CH 4-5 359 361 pa sm esp CH 5 [11 4 31  
b 5] 360c d BK VI II [139b 11] 388 II

12 EUCLETUS *Diss* ses 105 245 II p K I  
CH 105a 106 II 8 124 125 9 134d  
138a BK I CH 5 142c 144a CH 10 148 150a  
C I 3 170 172d BK II 177c 178d CH  
0 185d 187 CH 4 189c 190 C 18 192 -c  
BK IV CH I 213a 223d

12 AUR L U *Med* s s 253a 310d esp K II  
s CT 6 259 BK V ECT 9 272 BK VI SECT

16 275b-d SECT 22 276a BK VII SECT 16  
280d BK VIII SECT 16-17 286d SECT 28 287c  
SECT 48 289c BK V SECT 34 35 301a BK K  
CH SECT 3 307b d

18 AUGUSTINE *City of God* BK V CH 9-10 213b  
216c

19 AQUINAS *Summa Theologica* PART I Q 18 A  
3 ANS 106b 107c Q 19 A 3 ANS 110b 111c A  
10 ANS 117d 118b Q 60 AA 3 311a 312b  
Q 62 A 8 323c 324 Q 82 AA I 2 431d 433c  
Q 83 A 1 REP 5 436d-438a A 2 ANS 438a d  
PART I II Q 1 A 5 613a 614a A 7 614c 615a  
Q 5 A 4 ANS and REP 2 639a 640b A 8 ANS  
and REP 2 642d 643d II 10 662d 666a c Q  
13 AA 5-6 675c 677b II 17 A 4 R P 3 689c  
690b A 6 ANS 690b d AA 7-9 690d 693d

20 AQUINAS *Summa Theologica* PART I II Q 50  
A 5 REP 3 10b-d

21 DANTE *Divine Comedy* PURGATORY XVIII  
[1 75] 79d 80c XVI [34 7] 85b d

23 HOBBS *Leviathan* PART III 165c

31 DESCARTES *Discourse* PART III 50b / *Objec*  
*tions and Replies* AXIOM VII 132a 141b 141d  
228c

35 LOCKE *Human Understanding* g BK II CH XVI  
SECT 12 180d 181a SECT 52-53 191d 192b  
SECT 57 193b c SECT 59 193d 194a

42 KANT *Pure Reason* 164a 165c esp 164b c  
234 236a esp 235c d 236d 237a / *Grund*  
*Prin Metaphysic of Morals* 259c 260c 264d  
265b / *Practical Reason* 323d 326b

44 BOSWELL *Johnson* 407b

46 HEGEL *Philosophy of Right* INTRO par 8 21  
14c 17c ART II par 115 42d-43b ADDITIONS  
90 130b-d

48 MELVILLE *Moby D* k 159

51 TOLSTOY *War and Peace* BY XIII 577a 582a  
esp 57 d 579a BK XIV 605b d BK XV 630c  
631a EPILOGUE II 682a 694d

53 JAMES *Psychology* 291a 295a esp 291a II 293a  
388a 821b 822b 830a

6b The distinction between the will's freedom  
of exercise and the will's freedom of  
choice

19 AQUINAS *Summa Theologica* PART I II Q  
6 A 3 646d 647b A 7 REP 3 650a d Q 9 A 3  
659c 660a Q III A 2 ANS 663d 664d II 13 A  
6 ANS 676 677b

35 LOCKE *Human Understanding* g BK II CH XXI  
SECT 12 180d 181a

6c The distinction between voluntary be-  
havior and behavior resulting from free  
choice comparison of men and animals  
with respect to freedom

9 ARISTOTLE *Ethics* BK III CH 2 [111b 6-9] 357b  
17 PLOTINUS *Third Enn ad TR* III CH 3 93d 91c

19 AQUINAS *Summa Theologica* PART I II Q 19  
A 1 ANS 117d 118b A 12 1 3 118d 119d  
Q 59 A 3 ANS 308b 309a Q 115 A 4 ANS  
589d 590c PART I II Q 6 A 2 646a c Q 10



- (6) *The analysis of the will's range of freedom*  
6c *The distinction between voluntary behavior and behavior resulting from free choice: comparison of man and animals with respect to freedom*)

- A 3 ANS 664d 665c Q 11 A 2 667b d Q 12 A 5 672a ■ Q 13 A 2 673c 674c Q 15 A 2 682a c Q 16 A 2 684d 685b Q 17 A 2 687d 688b
- 25 MONTAIGNE *Essays* 218c 219b
- 31 DESCARTES *Discourse* PART V 59c 60b / *Objections and Replies* 156a d
- 35 LOCKE *Human Understanding* BK II CH XVI SECT 8-II 180a d
- 38 ROUSSEAU *Inequality* 337d 338a
- 42 KANT *Pure Reason* 164a 165c / *Practical Reason* 316c 317a / *Pref. Metaphysical Elements of Ethics* 372a b / *Intro Metaphysics of Morals* 386b d 393c d / *Judgement* 584d 585d 587a 588a
- 46 HEGEL *Philosophy of Right* INTRO par 11 15a b PART I par 47 24a ■ ADDITIONS 4 116a d 10 117d 118a 28 121b / *Philosophy of History* INTRO 168d PART III 304d 305b
- 49 DARWIN *Descent of Man* 311b d
- 51 TOLSTOY *War and Peace* EPILOGUE II 689c 690a

## 7 The implications of free will

- 7a Free will as a source of human dignity its relation to slavery and civil liberty

- 19 AQUINAS *Summa Theologica* PART I Q 59 A 3 CONTRARY 308b 309a Q 62 A 8 REP 3 323c 324 Q 96 A 4 512d 513 PART III ■ EPILOGUE 609a c Q 20 A 6 REP 3 716b d Q 21 A 3 REP 2 718d 719c
- 21 DANTÉ *Divine Comedy* PARADISE V [19-84] 112b-113a
- 24 RABELAIS *Gargantua and Pantagruel* BK I 65 d
- 26 SAKHAROV *Julius Caesar* ACT I C [135 161] 570d 571a
- 31 SPINOZA *Ethics* PART II PROP 49 SCHOL 394c d
- 32 MILTON *Areopagitica* 394b 395b
- 38 MONTESQUIEU *Spirit of Laws* BK XII 85a
- 38 ROUSSEAU *Inequality* 338a / *Social Contract* BK I 389a d 393b c
- 42 KANT *Groundwork of Metaphysics of Morals* 271d 279d esp 273d 277b / *Practical Reason* 325d 326b 327d 329 341b 342c 344 346b-348b esp 348a b 355a d / *Judgement* 591b 595c
- 43 MILL *Liberty* 316b d
- 46 HEGEL *Philosophy of Right* INTRO par 8 16c d par 21 17c PART I par 36 21b c par 48 24b ■ par 57 26b 27a A 1 IONS 14 118c d 3f 122b c 62 126a 67 126d / *Philosophy of History* INTRO 161 ■ PART I 230a c 236a ■ PART IV 350b c

- 51 TOLSTOY *War and Peace* BK XIII 577a 578b 581c 582a BK XIV 605b d BK XV 630c 631a EPILOGUE II 688a 690a
- 52 DOSTOEVSKY *Brothers Karamazov* BK V 127b 137c *passim*

## 7b The factors of freedom and necessity in the philosophy of history

- 15 TACITUS *Annals* BK III 49c BK IV 69a ■ VI 91b d / *Histories* BK I 194b
- 18 AUGUSTINE *City of God* BK I CH 36 149c d BK IV CH 33 206 d BK V CH I 207d 208c
- 21 DANTE *Divine Comedy* PURGATORY XV [52 105] 77b d
- 43 MILL *Representative Government* 332a d
- 46 HEGEL *Philosophy of Right* PART III par 340 347 110b 111c par 352 360 112b 114a c / *Philosophy of History* INTRO 160b 164d 168b d 170a 172b 175c 176c 179b c 182d 186a ■ 203c 206a c PART IV 315a 348a 368d 369a c
- 50 MARX *Capital* 7c 10b 11b
- 51 TOLSTOY *War and Peace* BK III 140b 143a c 144d BK IV 342a 344b BK V 389a 391c 405a b 430d 431a 447c 448c 465c 467a BK VI 469a 472b BK VII 563a 571a BK VIII 618b 621b EPILOGUE I 645a-650c EPILOGUE II 675a 696d

## 7c Human freedom in relation to the will of God / free predestination and providence

- OLD TESTAMENT *Genesis* 3 / *Exodus* 4 21 7 14 esp 7 3 9 12 10 1 14 17 / *Deuteronomy* 11 26-28 30 15 20 / *Joshua* 11 19-20 24 14 24—(D) *Joel* 11 19-20 24 14 24 / *Judges* 9 23 / *I Kings* 8 57 58 / *Job* 3 -3 12 14 25 34 29 / *Psalms* 119 36 139 15 16 141 4—(D) *Psalms* 118 36 138 15 16 140 4 / *Proverbs* 21 1 / *Ecclesiastes* 1 4 14 15 3 14 15 6 10 7 13 15 9 1 2 11 5-6 / *Isaiah* 14 24 27 63 17 64 8—(D) *Isaiah* 14 24 7 63 17 64 8 / *Malachi* 4 6—(D) *Malachi* 4 6
- AROCRYPHAL *Wisdom of Solomon* 7 16 19 4—(D) OT *Book of Wisdom* 7 16 19 4 / *Ecclesiastes* 15 11 20—(D) OT *Ecclesiastes* 15 11 21
- NEW TESTAMENT *Matthew* 6 10 20 1 16 esp 20 15 ■ 23 37 26 39 / *Luke* 22 3 4 / *John* 5 1 6 22 71 esp 6 37 6 40 6 44 45 6 64-65 6 70-71 10 26-29 12 37 40 13 18 27—(D) *John* 5 21 6 22 72 esp 37 6 40 6 44 45 6 65-66 6 71-72 10 26-29 12 37 40 13 18 27 / *Acts* 4 27 28 7 51 13 48 17 24 27 esp 17 26 / *Romans* 8 28-9 26 esp 8 28-30 9 18 2 11 10 1 / *1 Corinthians* 7 21 23 9 6-7 12 / *Ephesians* 1 3 12 2 8-10 4 7 14 / *Philippians* 2 12 13 / *1 Thessalonians* 5 18 / *2 Thessalonians* 11 14—(D) *2 Thessalonians* 2 10-13 / *1 Timothy* 1 8-9 / *James* 4 3 15 / *1 Peter* 1 5-5 4 *Hebrews* 11 4d ■ 11 [342 358] 43c d ■ XIX

- [74 144] 137d 138c BK XIV [507-551] 176c  
 171a / *Odyssey* BK XIV [441 445] 264c BK  
 X I [117 150] 285b c
- 5 ARISTOTELUS *Agamemnon* [160-54] 53d 54d  
 / *Choephoroe* 10a 80d esp [269-314] 72d 73b  
 [33 10, 6] 78d 80d / *Eumenides* 81a 91d
- 5 SOPHOCLES *Oedipus the King* 99 113a c esp  
 [297 1415] 111b 112b / *Oedipus at Colonus*  
 114 130a c esp [58 29] 116c d [939-1015]  
 123a d / *Philoctetes* [169-200] 183d 184a  
 [13 6-1347] 193d 194a
- 5 ERYC HEN *Eletra* [711 7 1] 304d 305a /  
*Eletra* 327a 339 c esp [1168 1359] 337d  
 339a c / *Heracles Mad* [1255 1351] 376a d /  
*Orestes* 394a-410d esp [4, 8-629] 398d 400b
- 6 HERODOTUS *History* BK I 7b 8 20a 22a  
 46c d BK III 98b-99a BK VII 218b 220b  
 BK IX 291b-c
- 7 PLATO *Republic* BK I 439b-441a // *Laus*  
 BK 650a b BK IV 679 // BK V 765d 769c  
 esp 767 768b
- 12 EPICURUS *Disco* BK I CH I 106a b  
 CH I 118d 120b CH I 7 123c d // I CH 2  
 197c 198b CH 24 208d 210a BK IV CH I  
 218b 219c CH 3 224d CH 7 233d 234a
- 12 AURELIUS MURETUS *Stoic* BK II 5 CT II 258 b  
 BK I 262b II 262a b K VI 387c 44 278b c
- 13 VIRGIL *Aeneid* BK IV [33 -36] 176a 177a
- 13 PLUTARCH *Coriolanus* 188d 189c / *Sulla*  
 370c 371b
- 15 TACITUS *Annals* III 49b c BK IV 69a  
 BK VI 91b-d
- 17 PLOTINUS *Third Ennead* TR II III 82c 97b  
 passim
- 18 AUGUSTIN *Confessions* BK II par 14 12a b  
 / *City of God* BK I 36 149 d BK I CH  
 33 206c d K V CI 207d 208c CH 9-10  
 213b 216c K XVIII CH 2 472d-473a
- 19 AQUINAS *Summa Theologiae* P RT I Q 7 A  
 I ANS 100d 101d // 9 A 8 116a d Q 22 A 2  
 REP 4-5 128d 130d Q 23 132b 141 Q 83 A  
 I REP 2-4 436d-438a Q 90 A 2 REP 521c  
 522b Q 103 A 5 R 3 531b 532b Q 5 A 4  
 541 542a Q 16 592d 595 pa im PART II  
 Q 6 A I R P 3 644d 646a A 4 REP 647b  
 648a Q 9 A 6 662 d // A 4 665d 666a c  
 Q 21 A 4 R P 719d 720a
- 21 DRYDEN *Comedy* II L VII [6 96]  
 10b-c PURGATORY XVI [5 1 5] 77b d  
 RADI E I [94 42] 107b d I [64-90]  
 110a b XX [31 48] 137a 138b
- 22 CHURCH *Trilogus* and *Cesid* BK V TANZA  
 150-154 108a b / *Nine's Prentice Tale* [15 236-  
 256] 456b 457a / *Caon Ye man's Tale*  
 [1b 940-949] 487a
- 23 MONTIGNY *Pisic* K XV 35 b
- 23 HOBBS *Leviathan* PA T II 113b c ART IV  
 272b-c
- 25 MONTIGNY *Essays* 250 342a b
- 27 SHAKESPEARE *Hamlet* ACT II II [0-  
 23] 51b / *King Lear* A T I SC [128 64]  
 239a b
- 29 CERVANTES *Don Quixote* PART II 408c
- 31 DESCARTES *Objectio* s and *Repl* s 141b
- 31 SPINOZA *Ethics* PART I APPENDIX 369b-  
 372d passim
- 32 MILTON *Paradise Lost* BK III [80-134] 137a  
 138a [167 16] 139 140a BK V [2 4 45]  
 180 b [506-543] 186 187a BK VI [169 188]  
 200a BK VII [139-173] 220 221a BK IX [342  
 375] 254b 255b BK X [1-62] 274b 275b  
 [615 640] 287b 288b / *Areopagitica* 394b  
 395b
- 35 HUTCHESON *Human Understandings* SECT VIII DIV  
 78 81 485c-487a
- 41 CIBBON *Decline and Fall* 230b
- 41 KANT *Practical Reason* 334a 335c
- 44 BOSWELL *Johnson* 173c 392d 393a 549c
- 46 HEGEL *Philosophy of History* INTRO 158c  
 160b 161d 162a 182d 184d
- 48 MELVILLE *Moby Dick* 185b 159a 396b  
 409b 410b
- 51 TOLSTOY *War and Peace* K IX 342a 344b  
 357b 358b BK V 447d BK VI 481d BK VII  
 553b BK XV 619d 620a 630d 631c EPILOGUE  
 I 650b c EPILOGUE II 675a 677b 680b //  
 684b d
- 52 DOSTOEVSKY *Brothers Karamazov* K V  
 121d 137c passim
- 54 FREUD *Interpretation of Dreams* 246c 247d  
 / *General Introduction* 582 b
- 7d God as the object of the human will the  
 quessence of the will in the beatific  
 vision
- OLD TESTAMENT *Exodus* 33 18 3 / *Deuteronomy*  
 4.29 / *1 Chronicles* 10 11 28 9—(D)  
*1 Paralomenon* 16 1 28 9 / *11 Chronicles*  
 5.24 2 15—(D) *11 Paralomenon* 15 2  
 4 12 15 / *Psalms* 27 8 42 1 6 63 1-6 7 4  
 73 25 8 84 2 3 119 10—(D) *Psalms* 68  
 41 -6 62 1-6 69 4 72 25 28 83 2 3 118 1 /  
*Isaiah* 26 8 9—(D) *Isaiah* 26 8-9 / *Jeremiah*  
 29 13—(D) *Jeremiah* 29 13 / *Amos* 5 4 8
- APOTHECA *Wisdom of Solomon* I I 13 1 9—  
 (D) OT *Book of Wisdom* I I 13 1 9
- N TESTAMENT *Philippians* 3 7 10
- 18 AUGUSTINE *Confessions* BK I par 14 b K  
 VII par 22 50a K XI par 1 101d / *City of*  
*God* BK XIV CH II 385d 387a K XV II  
 21 22 415b CH II BK XXII CH 3 617 618a  
 / *Christus in Doctrina* BK I CH I 625b c 115  
 628b c
- 18 AQUINAS *Summa Theologiae* PART I Q 12 A  
 I NS 50c 51c A 8 REP 4 57b 58b Q 59 A 4  
 REP 3 309a 310a // 60 A 5 313b 314c Q 82  
 A 2 NS 432d-433 A 3 ANS and REP 3 433c  
 434 Q 95 506b 510a // 100 520d 522b //  
 105 A 4 ANS 541 542 // II A 2 AN 569  
 570b PART II Q I A 8 615 Q 2 A 8 621c  
 622b Q 3 A I 622c 623a A 4 625a 626b Q 4  
 AA I 4 629d 632c Q 5 A I ANS 636d 637c  
 A 4 ANS nd REP 2 639a 640b A 5 REP I  
 640b 641a Q 9 A 6 662a d Q II A I REP I

- (7) *The implications of free will 7d God as the object of the human will the quiescence of the will 1 the beatific vision*

666b d 667a A 3 4 667d 669b Q 12 A 2  
670b A 3 REP 1 670d 671b Q 13 A 1 ANS  
672d 673c Q 16 A 3 CONTRARY and REP 3  
685b 686a Q 19 A 9 ANS 709d 710b A 10  
710b 711d

- 20 AQUINAS *Summa Theologiae* PART II Q 62 59d 63a PART II II Q 25 A 1 501b 502a  
A 12 509c 510b Q 26 AA 2-3 511a 512c Q  
7 AA 3 8 522c 527b PART III Q 9 A REP  
3 764c 765a

- 21 DANTE *Divine Comedy* PURGATORY XVI [34  
8] 85b d PARADISE I [97 142] 107b d III  
[43-90] 109d 110b XX [130-141] 138a XVI  
[64 75] 138d 139a XXVI [25 36] 146a

- 42 KANT *Practical Reason* 325a 327d esp 326b  
327a 33 a 355d esp 346b 347c  
58 DOBROVSKY *Brothers Karamazov* BK V  
127b 137 pa sim

## 7 Free will in relation to sin and salvation

- 7 (1) *The freedom to sin Adam's freedom and the freedom of fallen human nature*

OLD TESTAMENT *Genesis* 3 / *Deuteronomy* 11  
26-28 30 15 0 / *John* 24 14 4—(D) *I*  
*Joshua* 24 14 24 / *Isaiah* 51 7—(D) *I* *Isa*  
5 1 7

A OCRYPIA *Ecclesiasticus* 15 11 20—(D) OT  
*Ecclesiasticus* 15 1 21

NEW TESTAMENT *Romans* 5 12-8 21 / *Hebrews*  
10 26-31

- 18 AUGUSTINE *Confessions* BK VII par 5 44c d  
/ *City of God* BK V II 10-10 213b 216c BK  
XII CI 21 357a b BK XIV CH 11 12 385d  
387b CH 15 388d 390a BK XVII CH 1 587a II  
CH 3 617c 618a

- 19 AQUINAS *Summa Theologiae* PART I Q 17 A  
1 AN 100d 101d Q 2 A REP 4 128d 130d  
A 3 REP 3 130d 131c Q 23 A 1 R 8 132c  
133b A 3 REP 3 134b 135 II 4 A 3 142d  
143c Q 4 A ANS 257b 258c Q 62 A 3  
REP 2 319c 320b A II 323c 324a Q 63 A 1  
RE 4 325c 326 AA 5 7 329a 332b A 9 REP  
3 333b d Q 83 A 2 ANS and REP 3 438 d  
Q 10 A 2 521c 522b PART II Q 5 A 7 REP  
1 614c 615 Q 6 A 8 650d 651c Q 4 A 6 REP  
3 662a d Q 2 A 2 718a d

- 20 AQUINAS *Summa Theologiae* PART I I Q 74  
A 1 129a 130a II 09 A 2 339c 340b A  
7 0 344 347d

- 21 DANTE *Divine Comedy* PURGATORY XVI  
[52 105] 77b-d XVII [8]-XVIII [75] 79b 80c  
PARADISE I [94 142] 107b d IV [64 114]  
111b d V [19-30] 112b II [25 33] 115c

- 30 BACON *Advancement of Learning* 17d 18a

- 32 MILLER *Putnam's Law* BK III [80-134] 137a  
138a [167 216] 139 140 BK V [224 245]

180a b [506-543] 186a 187a BK IV [34 3]  
254b 255b BK V [1-16] 274b / *Samson Agonistes*  
[373 419] 347b-348b / *Treopagnica*  
394b 395b

- 35 LOCKE *Tolerance* 8c d 10c d 15d 16a  
46 HEGEL *Philosophy of History* PART III 304d  
305b  
51 TOLSTOY *War and Peace* EPILOGUE II 689b  
52 DOSTOEVSKY *Brothers Karamazov* BK V  
127b 137c passim

## 7e(2) The relation of freedom to grace

OLD TESTAMENT *Psalms* 95 7 9—(D) *Psalms*  
94 7-9 / *Proverbs* 1 20-33 / *Isaiah* 51 7—  
(D) *Isaiah* 51 7

NEW TESTAMENT *John* 1 18 esp 15 1 10-13  
5 21 6 37 64 66 8 31 36 10 26-29 12 37  
40 13 18 27 / *Acts* 7 51 13 38 48 12 11  
/ *Romans* 4 8 9 9-18 11 5 10 26-31 / *I*  
*Corinthians* 7 21-23 9 19-21 / *I* *Corin*  
*thian* 3 17 6 1 2 / *Galatians* 4 5 1 13  
18 22 24 / *Ephesians* 1 3 12 2 4 10 / *Philip*  
*pian* 2 12 13 / *Titus* 3 3-7 / *James* 1 25  
2 10-12 / *I* *Peter* 2 15 16 / *Revelation* 3 0—  
(D) *Apocalypse* 3 20

- 18 AUGUSTINE *Confessions* BK IV par 1 61c d /  
*City of God* BK X CH 32 319d 322 c BK XV  
CI 1 398a c BK XVII CH 1 587 b CH 30  
617c 618a

- 19 AQUINAS *Summa Theologiae* PART I Q 23 A  
3 REP 3 134b 135a AA 5-6 135d 138c A 8  
140a 141a Q 62 A 3 REP 2 319c 320b A 4  
ANS 320b 321b Q 83 2 CONT ARY 438a d  
Q 92 A 1 RE 3 5 506b 507c Q 100 A 2 REP 1  
521c 522b PART I II Q 5 A 5 REP 1 640b-  
641a Q 9 A 6 RE 3 662a d

- 20 AQUINAS *Summa Theologiae* PART I II Q  
103 A ANS and REP 2 331a 332b Q 109  
2 339c 340b Q 110 A 4 350d 351d Q 111 2  
352d 353d Q 113 A 3 362c 363c A 5 364b-  
365a PART II II Q 183 A 4 REP 1 627d-628d

- 21 DANTE *Divine Comedy* PURGATORY I [22  
84] 53b 54a V [58 66] 59c VII [37-6] 62d  
63a XI [5-45] 69a II XII [115 136] 71c d  
XXI [34 72] 85b d XXVII [124 142] 95d 96a  
PARADISE III [64-90] 110a II VII [64-84]  
115d 116a XX [31 148] 137a 138b XXI [52  
75] 138d 139a

- 31 DSCARTES *Meditations* IV 91a b / *Objections*  
and *Responses* 125c 126b

- 32 MILLER *Putnam's Law* BK II [27 103]  
133b BK III [56 415] 136b 144b esp [30-131]  
138 [227 238] 140b BK VI [251 262] 304b-  
305a BK VII [576-605] 331b 332a

- 33 PALMER *Provincial Letters* 141a 166b pp  
154b 159a

- 42 KANT *Practical Reason* 238b

- 43 MILLER *Liberty* 296b 297b

- 46 HEGEL *Philosophy of Right* PART II par 140,  
50a / *Philosophy of History* PART III 310d  
311a

52 DOSTOEVSKY *Brothers Karama* or BK V  
127b 137c passim

## 8 The will as a factor in morality and in society

8a The solab lity of the will its freedom  
from external compulsions or con-  
straints

7 PLATO *Gorgias* 285c d

11 EPICTETUS *Discourses* 105a 245a c esp BK I  
CH I 105a 106c CH 17 29 123b-138a BK II  
CH 5 142c 144a CH 10 148c 150a CH 23 170a  
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12 AURELIUS *Meditations* 253a 310d esp BK II  
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- I Works by authors represented in this collection
- II Works by authors not represented in this collection

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## Chapter 101 WISDOM

### INTRODUCTION

THE special character of wisdom among the attainments of the mind shows itself in the things which everyone will agree can be said about wisdom—things which cannot be said about art and science or knowledge and learning generally. We believe that with the centuries knowledge can be steadily increased and learning advanced but we do not suppose that the same progress can be achieved in wisdom. The individual may grow in wisdom. The race does not seem to.

In the tradition of the great books the moderns usually assert their superiority over the ancients in all the arts and sciences. They seldom claim superiority in wisdom. The phrase

modern science needs no elucidation but if anyone were to speak of modern wisdom he would have to explain his meaning. As modern seems to have an immediately acceptable significance when it qualifies science so ancient seems to go with wisdom and to suggest that with the centuries far from increasing wisdom may be lost.

Wisdom is more frequently and extensively the subject of discussion in the ancient and mediaeval than in the modern books. The ancients seem to have not only a greater yearning for wisdom but also a greater interest in understanding what wisdom is and how it can be gained. The traditional discussion of wisdom furthermore has its foundations in the literature of the Old and the New Testament as well as in the books of pagan antiquity.

This is not true of other forms of knowledge. The teachings of revealed religion open a path to the heart of wisdom. They do not propose methods of scientific research. Again and again the Scriptures proclaim that fear of the Lord is the beginning of wisdom—a wisdom which develops with piety and worship as science develops with experiment and proof.

Still another distinctive mark of wisdom is that it cannot be misused. We recognize that bad men as well as good may possess other kinds of knowledge. We have seen artistic skill and scientific truth put to evil use. But we do not ordinarily think a man wise unless he acts wisely. To act wisely is to act well even as to have wisdom is to use it. The satirist's praise of folly condemns a useless wisdom. The theologian's condemnation of worldly wisdom dismisses it as the worst of folly—a counterfeit of wisdom.

Other forms of learning may separate knowledge from action. wisdom tends to unite them. Other forms of inquiry may be content with knowing and understanding the facts the pursuit of wisdom aspires to a knowledge of good and evil. Plato for example makes the vision of the good the goal of a dialectic which ascends to wisdom yet which does not rest there but returns enlightened to the realm of action. This conception of wisdom is hinted at when we never refrain from calling a man wise simply because he is learned—a scholar scientist or philosopher.

Again it is Plato who respects wisdom so highly that he will not call the philosopher wise but only a lover of wisdom. No god is a philosopher or seeker after wisdom for he is wise already. Socrates says in the *Symposium* nor does any man who is wise seek after wisdom. Neither do the ignorant seek after wisdom. The lovers of wisdom are neither the wise nor the ignorant and foolish. As Socrates points out they are in a mean between the wise and the ignorant.

Aristotle would seem to disagree not from a lower regard for wisdom but because he identifies wisdom with philosophical knowledge and especially with that highest branch of speculative science which is called theology—first philosophy or metaphysics. His use

of the phrase philosophical wisdom to distinguish speculative from practical or political wisdom suggests that the philosopher may attain the wisdom he pursues. Yet Aristotle like Plato speaks of philosophers or lovers of wisdom and Plato like Aristotle treats wisdom as one of the basic human virtues.

WE SHALL RETURN TO THE distinction which both Aristotle and Aquinas make between practical and speculative wisdom: they often call the latter simply wisdom in contrast to prudence which is their name for practical wisdom. Other writers who treat wisdom as sometimes emphasize its speculative and sometimes its practical aspect. But for all of them this double aspect remains part of wisdom's special character.

Lucretius for example finds nothing more gladdening than to dwell in the calm high places firmly embattled on the heights by the teaching of the wise: whence you can look down on others and see them wandering hither and thither going astray as they seek the way of life. The way of life free from pain the distress of fear and futile struggle is known only to the wise. Calm and repose are here suggested as attributes of the wise man. That also seems to be the implication of Dr Johnson's approbation of one who had attained to the state of the philosophical wise man: that is to have no want of anything. When Boswell observes that the savage is a wise man Johnson replies: Sir I do not mean simply being without—but not having a want.

For Plotinus wisdom seems to be purely speculative and its repose a condition of the reasoning mind at rest. Wisdom he writes is a condition in a being that possesses repose. Think what happens when one has accomplished the reasoning process: as soon as we have discovered the right course we cease to reason. We rest because we have come to wisdom. Still wisdom has a moral or for Plotinus an aesthetic aspect. One Soul he says is wise and lovely another foolish and ugly. Soul beauty is constituted by wisdom.

The practical or moral aspect of wisdom predominates in Milton, Rabelais and Tolstoy. In Paradise Lost Adam communicates his reflections on human knowledge to Raphael.

But apte the Mind or Fancie is to roave  
Uncheckt and of her roaving is no end  
Till warn'd or by experience taught she learn  
That not to know at large of things remote  
From use obscure and subtle but to know  
That which before us lies in daily life  
Is the prime Wisdom: what is more is fume,  
Or emptiness or fond impertinence  
And renders us in things that most concerne  
Unpractic'd unprepar'd and still to seek.

Gargantua writing a letter to his son Pantagruel while the latter is a student in Paris admonishes him in the words of Solomon that

Wisdom entereth not into a malicious mind and that knowledge without conscience is but the ruin of the soul. In *War and Peace* Pierre after reiterating that All we can know is that we know nothing. And that is the height of human wisdom learns from the Mason that the highest wisdom is not founded on reason alone nor on those worldly sciences of physics chemistry and the like into which intellectual knowledge is divided. The highest wisdom the Mason continues is but one science—the science of the whole—the science explaining the whole creation and man's place in it. To receive that science it is necessary to purify and renew one's inner self. And to attain this end we have the light called conscience that God has implanted in our souls.

Though Plato defines wisdom as the virtue of reason—that part of the soul which is for hunting the faculty of knowledge—he gives it the function of directing conduct as well as contemplating truth. Him we call wise, Socrates declares in the *Republic* who has in him that little part which rules and which has a knowledge of what is for the interest of each of the three parts and of the whole. In the state as in the soul how can there be the least shadow of wisdom the Athenian Stranger asks in the *Laws* where there is no harmony?

There is no harmony or wisdom when false reasonings have their habitation in the soul and yet do no good but rather the reverse is good because reason fails to rule or be obeyed.

When the soul is opposed to knowledge, opinion or reason which are her natural lords the Athenian Stranger goes on that I call folly just as it is in the state when the multitude refuses to obey their rulers or the laws.

The four virtues which Plato

in both the *Republic* and the *Laus* are wisdom temperance courage justice. Justice is given a certain preeminence in the *Republic* as some how embracing the other three but in the *Laus* the ruling virtue is wisdom. Calling the virtues divine goods to distinguish them from such things as health beauty strength and wealth the Athenian Stranger makes wisdom chief and leader of the divine class of goods. Next he says follows temperance and from the union of these two with courage springs justice and fourth in the scale of virtue is courage. As the principle of these other virtues wisdom like them engages in the life of action. It does not move solely in the realm of thought.

When he refers to wisdom as one of the four virtues Aristotle uses the word wisdom as if it named a single virtue. In the passage in the *Politics* in which he says that the courage justice and wisdom of a state have the same form and nature as the qualities which give the individual who possesses them the name of just wise or temperate he does not divide wisdom into the speculative and the practical. But he seldom overlooks that separation. The passage just cited for instance begins with the statement that each one has just so much happiness as he has of virtue and wisdom and of virtuous and wise action.

Here the reference to virtue and wisdom places wisdom outside the virtues when the latter are conceived exclusively as moral virtues. Wisdom for Aristotle is a virtue only in the order of intellectual excellence not of moral excellence or character. As an intellectual virtue wisdom is not even involved in the growth or exercise of the moral virtues. It is as possible Aquinas says following Aristotle to have the cardinal moral virtues without wisdom as it is to have them without art or science. But for both Aquinas and Aristotle this is neither true nor intelligible unless we bear in mind the distinction between philosophical and practical wisdom or between wisdom and prudence.

Though prudence is no less than wisdom an intellectual virtue—a quality of mind rather than of character—it belongs with the moral virtues. As the chapter on VIRTUE indicates the cardinal virtues according to Aquinas in-

clude prudence not wisdom. Similarly as may be seen in the chapter on PRUDENCE Aristotle's theory holds it impossible to be good without practical wisdom just as it is impossible to be practically wise without moral virtue.

Practical wisdom Aristotle writes is concerned with things human and things about which it is possible to deliberate. Philosophic wisdom on the other hand will contemplate none of the things that make a man happy. To explain the difference Aristotle uses the example of the early Greek sages. We say Anaxagoras Thales and men like them have philosophic but not practical wisdom when we see them ignorant of what is to their own advantage. They know things that are remarkable admirable difficult and divine but useless because it is not human goods they seek.

If wisdom connotes the highest form of knowledge then the name according to Aristotle is more properly applied to speculative than to practical wisdom. The highest form of knowledge in his view is concerned with the highest objects. Hence he says it would be strange to think that practical wisdom is the best knowledge since man is not the best thing in the world. But if the argument be that man is the best of the animals this makes no difference for there are other things much more divine in their nature than man and wisdom is knowledge of the things that are highest by nature.

When Hobbes distinguishes between prudence and sapience he does not assign a peculiar object to wisdom. As much experience is *Prudence* he writes so is much science *Sapience*. It is the amount of science a man possesses not his possession of a particular kind of knowledge which makes him wise. Descartes seems to take a similar view when he says that the sciences taken all together are identical with human wisdom. But for Aristotle and Aquinas philosophical wisdom can be distinguished from the other speculative virtues such as the understanding of first principles or the scientific knowledge of the conclusions which can be demonstrated from them. It involves them but it is distinct from them insofar as it uses principles to demonstrate conclusions concerning the highest causes. Wisdom can be

called a science if it is understood that by reason of its object it stands at the apex of the sciences crowning and perfecting them

In the opening pages of his *Metaphysics* Aristotle identifies wisdom with the supreme philosophical science—the science which investigates first principles and causes. He calls it a divine science or theology for as he says

God is thought to be among the causes of all things and to be a first principle. It is not the most useful science but the most desirable on its own account and for the sake of knowing

It alone exists for its own sake. All the sciences indeed are more necessary than this but none is better

While adopting Aristotle's conception of wisdom Aquinas finds it most eminently represented among the sciences not by metaphysics or the theology of the philosophers but by sacred doctrine or the theology based on revelation. Since it is the part of a wise man to order and to judge he writes and since lesser matters can be judged in the light of some higher cause therefore he who considers absolutely the highest cause of the whole universe namely God is most of all called wise

But sacred doctrine essentially treats of God viewed as the highest cause for it treats of Him not only so far as He can be known through creatures just as the philosophers know Him

but also so far as He is known to Himself alone and revealed to others. Hence Aquinas concludes sacred doctrine is especially called wisdom

THE CONTRAST BETWEEN THE wisdom of the philosopher and the wisdom of the theologian is more fully discussed in the chapters on METAPHYSICS and THEOLOGY. But we are concerned here with the further implications of the difference between natural and supernatural wisdom or the wisdom of man and of God

The Greeks insistently raise the question whether man can have wisdom. In the *Apology* Socrates tells his accusers that his cross examination of the pretenders to wisdom was a duty imposed upon him by the oracle which declared that there was no man wiser than himself. To understand the oracle's meaning he tried to seek out wisdom in other men but he says at his trial 'I found that the men most in repute

were all but the most foolish. This gave him an insight into the kind of wisdom which he himself possessed

My hearers always imagine Socrates declares that I myself possess the wisdom which I find wanting in others but the truth is O men of Athens that God only is wise and by his answer he intends to show that the wisdom of men is worth little or nothing he is not speaking of Socrates he is only using my name by way of illustration as if he said He O men is the wisest who like Socrates knows that his wisdom is in truth worth nothing. Again in the *Phaedrus* Socrates refuses to call any man wise for that is a great name which belongs to God alone. For men lovers of wisdom or philosophers is the modest and befitting title

Aristotle also says of the science which most deserves the name of wisdom because it is a science of divine things that such a science either God alone can have or God above all others. He does not think that the divine power can be jealous but if there were any truth in what the poets say about the jealousy of the gods it would probably occur in this case above all and all who excelled in this knowledge would be unfortunate. To what ever extent the possession of wisdom might be justly regarded as beyond human power it would be unfitting in Aristotle's opinion for man not to be content to seek the knowledge that is suited to him

This is even more typically a Christian than a pagan sentiment. Christians have a special knowledge writes Montaigne how natural and original an evil curiosity is in man the thirst of knowledge and the desire to become more wise was the first ruin of human kind and the way by which it precipitated itself in eternal damnation. In *Paradise Lost* as he is about to leave the Garden of Eden Adam says to the angel Michael

Greatly instructed I shall hence depart  
Gretting in peace of thou hast and have my fill  
Of knowledge what thou'st set can contain  
Beyond which was my folly to aspire

To which the angel replies

This having learnt thou hast attained the summe  
Of wisdom

But Sacred Scripture does more than exhort man to humble himself before the

tween human wisdom at its best and the infinite wisdom of God. It does more than say in the words of Jeremiah: Let not the wise man glory in his wisdom; for it also says that fools despise wisdom. In the Epistle of James we find true wisdom set apart from false. If the knowledge of the wise man is not accompanied by the meekness of wisdom, if instead there is bitter envying and strife in your hearts, then this wisdom descendeth not from above, but is earthly, sensual, devilish. But the wisdom that is from above is first pure, then peaceable, gentle, and easy to be intreated, full of mercy and good fruits, without partiality, and without hypocrisy.

St Paul asks: Hath not God made foolish the wisdom of this world? When

the world by wisdom knew not God, it pleased God by the foolishness of preaching to save them that believe.

For the Jews require a sign, and the Greeks seek after wisdom.

But we preach Christ crucified, unto the Jews a stumbling block, and unto the Greeks foolishness; but unto them which are called, both Jews and Greeks, Christ the power of God, and the wisdom of God.

Because the foolishness of God is wiser than men, and the weakness of God is stronger than men.

My speech and my preaching, St Paul continues to the Corinthians:

was not with enticing words of man's wisdom, but in demonstration of the Spirit and of power.

That your faith should not stand in the wisdom of men, but in the power of God.

Howbeit we speak wisdom among them that are perfect; yet not the wisdom of this world, nor of the princes of this world, that come to nought.

But we preach the wisdom of God in a mystery, even a hidden mystery, which God hath ordained before the world, unto our glory.

Wonder is the beginning of the kind of natural wisdom which a philosopher like Aristotle regards as the ultimate goal of human inquiry. But the supernatural wisdom of which Scripture speaks begins with the fear of God and comes to man not through his efforts at learning, but only as a divine gift. If any of you lack wisdom, St James declares, let him ask God, that giveth to all men liberally and upbraideth not; and it shall be given him. It is wrong for a man to take pride in his own learn-

ing, but according to Pascal, the proper place for pride is in wisdom, for it cannot be granted to a man that he has made himself wise. God alone gives wisdom, and that is why *Qui gloriatur in Domino gloriatur*.

The theologians dwell at length on the text of the Psalmist that the fear of the Lord is the beginning of wisdom. Enumerating seven steps to wisdom, Augustine writes: First of it is necessary that we should be led by the fear of God to seek the knowledge of His will, which He commands us to desire, and what to avoid. Now this fear will of necessity excite in us the thought of our mortality and of the death that is before us, and crucify all the motions of pride, as if our flesh were nailed to the tree. Then in succession come the steps of piety, knowledge, resolution, counsel, purification of heart, and finally the holy man will be so single and so pure in heart that he will not step aside from the truth, either for the sake of pleasing men, or with a view to avoid any of the annoyances which beset this life. Such a man ascends to wisdom, which is the seventh and the last step, and which he enjoys in peace and tranquility.

Only the wisdom which begins with faith, according to Aquinas, also begins with fear.

A thing may be called the beginning of wisdom in two ways, he explains, in one way because it is the beginning of wisdom itself as to its essence, in another way as to its effect. Thus the beginning of an art as to its essence consists in the principles from which that art proceeds, while the beginning of an art as to its effect is that wherefrom it begins to operate. Aquinas then points out that wisdom is considered by theologians in one way, and in another way by philosophers. As the wisdom of the philosophers does not begin with articles of faith, but with axioms of reason, so it does not begin with fear, but with wonder.

The wisdom of the philosophers and the wisdom of the religious both consist in knowledge of divine things, but wisdom as we look at it, Aquinas writes, is considered not only as being cognizant of God, as it is with the philosophers, but also as directing human conduct, since this is directed not only by the human law, but by the divine law. Accordingly the beginning of wisdom as to its essence consists in the first principles of wisdom, i.e. the articles of faith.

and in this sense faith is said to be the beginning of wisdom. But as regards the effect the beginning of wisdom is the point where wisdom begins to work, and in this way fear is the beginning of wisdom, yet servile fear in one way and filial fear in another.

For servile fear Aquinas explains is like a principle disposing a man to wisdom from without, in so far as he refrains from sin through fear of punishment, and is thus fashioned for the effect of wisdom. On the other hand chaste or filial fear is the beginning of wisdom as being the first effect of wisdom. For since the regulation of human conduct by the divine law belongs to wisdom, in order to make a beginning man must first of all fear God and submit himself to Him.

The special character of wisdom which we noted earlier—that it is at once speculative and practical knowledge—that it is concerned both with the ultimate nature of things and the ultimate good for man—seems to be strikingly exemplified in what the theologian calls the gift of wisdom. Wisdom as Plato conceives it may have this double character, but for Aristotle as we have seen wisdom as opposed to prudence is purely speculative. It remains speculative even when it deals with the end which is the good of each thing, and in general with the supreme good in the whole of nature. It considers the end or the good as Aristotle indicates only under the aspect of investigating the first principles and causes for the good. The end is one of the causes. It does not thereby direct man to his own end, or lay down the rules of a good life.

The supernatural gift of wisdom Aquinas tells us is not merely speculative but also practical. It belongs to wisdom as a gift not only to contemplate divine things, but also to regulate human acts. Such infused wisdom not only extends to the hidden mysteries of divine things, which are beyond the greatest wisdom man can acquire by his natural efforts, but this wisdom also directs man's actions to the sovereign good which is the last end, by knowing which man is said to be truly wise.

CHRISTIAN THEOLOGIANs LIKE Augustine and Aquinas do not hold the wisdom of the philosophers in contempt because they fail to pene-

trate the divine mysteries, or to guide man to his salvation. Augustine finds in Plato's teaching a marvellous foreshadowing of Christian wisdom. It is evident that none come nearer to us than the Platonists. He says when he attributes to Plato the conception of the wise man as one who imitates, knows, loves this God and who is rendered blessed through fellowship with Him in His own blessedness. Though Aquinas holds that wisdom as a gift is more excellent than wisdom as an intellectual virtue, since it attains to God more intimately by a kind of union of the soul with Him, he certainly regards Aristotle as the epitome of natural wisdom when he refers to him as *the philosopher*.

The admonition of St Paul, to beware lest any man spoil you through philosophy and vain deceit, after the tradition of men, after the rudiments of the world, does not seem to be interpreted by Augustine and Aquinas to mean as Montaigne later suggests that the plague of man is the opinion of wisdom, and for this reason it is that ignorance is so recommended to us by our religion. But the theologians do condemn the counterfeits of wisdom to which men are susceptible. These are false wisdoms; the wisdom of the philosophers is not false, but imperfect.

We find three types of false worldly wisdom listed by Aquinas. If a man fixes his end in external earthly things, he writes, his wisdom is called *earthly*; if in the goods of the body it is called *sensual* wisdom; if in some excellence it is called *devilish* wisdom, because it imitates the devil's pride. These worldly wisdoms constitute for him the sin of folly. It is the wisdom of the world Aquinas says, which deceives and makes us foolish in God's sight. Though no man wishes to be a fool, he adds, yet he wishes those things of which folly is a consequence, viz. to withdraw his sense from spiritual things and to plunge it into earthly things. The essence of such folly, according to the Psalmist, lies in denial. The fool hath said in his heart: There is no God.

But there is another meaning of folly in which it is neither a sin nor the opposite of wisdom. If any man among you seem to be wise in this world, St Paul declares, let him become a fool, that he may be wise. Commenting on this text Aquinas explains that just as

is an evil wisdom called *worldly wisdom* so too there is a good folly opposed to this evil wisdom whereby man despises worldly things. If there is wisdom in such folly so also according to Aquinas there can be wisdom in those whom the world regards as natural fools or innocents. If they have grace he writes baptized idiots like little children have the habit of wisdom which is a gift of the Holy Ghost but they have not the act on account of the bodily impediment which hinders the use of reason in them.

Throughout the tradition of the great books those who praise folly do not take exception to the Psalmist's remark that only fools despise wisdom. Rather they find wisdom in the appearances of folly and use the wisdom of fools to expose the folly of those who pretend to be wise. I every day hear fools say things that are not foolish. Montaigne declares and echoing him Touchstone the clown in *As You Like It* complains. The more pity that fools may not speak wisely what wise men do foolishly. To which Celia replies. By my troth thou sayest true for since the little wit that fools have was silenced the little foolery that wise men have makes a great show. And later after a conversation with Touchstone about the passing of time Jacques observes. When I did hear the motley fool thus moral on the time my lungs began to crow like chanticleer that fools should be so deep contemplative.

The jesters and clowns in Shakespeare's comedies have a kind of wisdom. In *Twelfth Night* the clown who banters with Viola denies that he is the Lady Olivia's fool but says he is simply her corrupter of words. The trouble he explains is not that he lacks reason but that words are grown so false that I am loath to prove reason with them and he ends by telling Viola. Foolery sir does walk about the orb like the sun it shines everywhere. I would be sorry sir but the fool should be as oft with your master as with my mistress. I think I saw your wisdom there.

Pantagruel persuades Panurge to take counsel of a fool. The wise may be instructed by a fool he says. You know how by the advice and counsel and prediction of fools many kings, princes, states and commonwealths have been preserved, battles gained and diverse doubts of

a most perplexed intricacy resolved. As he who is called a worldly wise man Pantagruel goes on to remark may in the second judgment of the intelligences which are above be esteemed a fool so he may be thought a sage who lays quite aside those cares which are conducive to his body or his fortunes. All which neglects of sublunary things are vulgarly imputed folly.

To the same general effect are Pierre's reflections in *War and Peace* on the period of his blissful insanity after the burning of Moscow. When he recalls the views he formed of men and circumstances at the time of his madness he always finds them correct. I may have appeared strange and queer then he says to himself but I was not so mad as I seemed. On the contrary I was wiser and had more insight than at any other time and understood all that is worth understanding in life because because I was happy.

FOLLY IS NOT ALWAYS PRAISED in paradox nor is it seriously condemned only by the Christian theologian who equates it with denying or turning away from God. Folly eldest of Jove's daughters says Agamemnon in the *Iliad* shuts men's eyes to their destruction. She walks delicately not on the solid earth but hovers over the heads of men to make them stumble or to ensnare them. Time was when she fooled Jove himself. Agamemnon concludes the story of Jove's befuddlement by relating how in his rage Jove caught Folly by the hair and swore a great oath that never should she again invade starry heaven and Olympus for she was the bane of all. Then he whirled her round with a twist of his hand and flung her down from heaven so that she fell on the fields of mortal men.

On the earthly plane folly takes many forms of which in Montaigne's judgment the most exasperating are dullness of wit, the boldness of stupidity and contentiousness in argument.

Obstinacy of opinion and heat in argument are the surest proofs of folly he observes. Is there anything so assured, resolute, disdainful, contemplative, serious and grave as the ass?

Whatever the forms or aspects of folly and however the wisdom it implies or opposes be conceived one thing is clear throughout the

tradition of western thought No one who can separate true wisdom from folly in disguise places anything but the highest value on it in the order of human goods

The final utterance of the Chorus in *Antigone* that wisdom is the supreme part of happiness the Aristotelian doctrine that the activity of philosophic wisdom is admittedly the pleasantest of virtuous activities and all the other attributes ascribed to the supremely happy man are evidently those connected with this activity the statement by Plato in his *Seventh Letter* in which he demands that his myth of the philosopher king be taken seriously for the human race will not see better days until either the stock of those who rightly and genuinely follow philosophy acquire political authority or else the class who have political control be led by some dispensation of providence to become real philosophers—all these express the tribute which pagan antiquity pays to wisdom in human life and society

To the Christian—theologian mystic or poet—it is in Heaven with the saints who dwell in God's presence that wisdom like love reigns supreme Nor are these two unconnected As

charity is the perfection of the will so wisdom is the perfection of the intellect In the *Divine Comedy* Aquinas explains to Dante when they meet in Paradise how lack of wisdom or order in the mind goes hand in hand with love's disorder He is very low down among the fools the spirit says who affirms or denies without distinction alike in the one and in the other case because it happens that oftentimes the rash judgment bends in false directions and then self love binds the intelligence

With the accent on earth rather than on heaven with reliance upon reason rather than upon faith Spinoza voices a comparable insight that to have wisdom is to love wisely for to know wisely is to love God It is therefore most profitable to us in this life he writes

to make perfect the intellect or reason as far as possible and in this one thing consists the highest happiness or blessedness of man for blessedness is nothing but the peace of mind which springs from the intuitive knowledge of God Not only does the highest possible peace of mind arise from this kind of knowledge but he adds from it also necessarily springs the intellectual love of God

## OUTLINE OF TOPICS

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOMER *Iliad* BK II [265-83] 12d the number 4 is the number of the volume in the set the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAM S *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART BK, CHAPTER) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* BK II [265-83] 12d.

**BIBLE REFERENCES.** The references are to book chapter and verse. When the King James and Douay versions differ in the title of books or in the numbering of chapters or verses the King James version is cited first and the Douay indicated by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7:45—(D) *I Esdras* 7:46.

**SYMBOL.** The abbreviation esp calls the reader's attention to one or more especially relevant parts of a whole reference. *passim* signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

## 1 The nature or kinds and kinds of wisdom

## 1a Diverse conceptions of natural wisdom the supreme form of human knowledge

- 7 PLATO *Charmides* 7d 9d 11b c 12d 13d / *Phaedrus* 125a 126c / *Symposium* 166c 167e / *Apology* 201b 203a / *Phaedrus* 232a / *Republic* 346a 347a 348b 349c 350c 351c 352c 353c 354c 355c 356c 357c 358c 359c 360c 361c 362c 363c 364c 365c 366c 367c 368c 369c 370c 371c 372c 373c 374c 375c 376c 377c 378c 379c 380c 381c 382c 383c 384c 385c 386c 387c 388c 389c 390c 391c 392c 393c 394c 395c 396c 397c 398c 399c 400c 401c 402c 403c 404c 405c 406c 407c 408c 409c 410c 411c 412c 413c 414c 415c 416c 417c 418c 419c 420c 421c 422c 423c 424c 425c 426c 427c 428c 429c 430c 431c 432c 433c 434c 435c 436c 437c 438c 439c 440c 441c 442c 443c 444c 445c 446c 447c 448c 449c 450c 451c 452c 453c 454c 455c 456c 457c 458c 459c 460c 461c 462c 463c 464c 465c 466c 467c 468c 469c 470c 471c 472c 473c 474c 475c 476c 477c 478c 479c 480c 481c 482c 483c 484c 485c 486c 487c 488c 489c 490c 491c 492c 493c 494c 495c 496c 497c 498c 499c 500c 501c 502c 503c 504c 505c 506c 507c 508c 509c 510c 511c 512c 513c 514c 515c 516c 517c 518c 519c 520c 521c 522c 523c 524c 525c 526c 527c 528c 529c 530c 531c 532c 533c 534c 535c 536c 537c 538c 539c 540c 541c 542c 543c 544c 545c 546c 547c 548c 549c 550c 551c 552c 553c 554c 555c 556c 557c 558c 559c 560c 561c 562c 563c 564c 565c 566c 567c 568c 569c 570c 571c 572c 573c 574c 575c 576c 577c 578c 579c 580c 581c 582c 583c 584c 585c 586c 587c 588c 589c 590c 591c 592c 593c 594c 595c 596c 597c 598c 599c 600c 601c 602c 603c 604c 605c 606c 607c 608c 609c 610c 611c 612c 613c 614c 615c 616c 617c 618c 619c 620c 621c 622c 623c 624c 625c 626c 627c 628c 629c 630c 631c 632c 633c 634c 635c 636c 637c 638c 639c 640c 641c 642c 643c 644c 645c 646c 647c 648c 649c 650c 651c 652c 653c 654c 655c 656c 657c 658c 659c 660c 661c 662c 663c 664c 665c 666c 667c 668c 669c 670c 671c 672c 673c 674c 675c 676c 677c 678c 679c 680c 681c 682c 683c 684c 685c 686c 687c 688c 689c 690c 691c 692c 693c 694c 695c 696c 697c 698c 699c 700c 701c 702c 703c 704c 705c 706c 707c 708c 709c 710c 711c 712c 713c 714c 715c 716c 717c 718c 719c 720c 721c 722c 723c 724c 725c 726c 727c 728c 729c 730c 731c 732c 733c 734c 735c 736c 737c 738c 739c 740c 741c 742c 743c 744c 745c 746c 747c 748c 749c 750c 751c 752c 753c 754c 755c 756c 757c 758c 759c 760c 761c 762c 763c 764c 765c 766c 767c 768c 769c 770c 771c 772c 773c 774c 775c 776c 777c 778c 779c 780c 781c 782c 783c 784c 785c 786c 787c 788c 789c 790c 791c 792c 793c 794c 795c 796c 797c 798c 799c 800c 801c 802c 803c 804c 805c 806c 807c 808c 809c 810c 811c 812c 813c 814c 815c 816c 817c 818c 819c 820c 821c 822c 823c 824c 825c 826c 827c 828c 829c 830c 831c 832c 833c 834c 835c 836c 837c 838c 839c 840c 841c 842c 843c 844c 845c 846c 847c 848c 849c 850c 851c 852c 853c 854c 855c 856c 857c 858c 859c 860c 861c 862c 863c 864c 865c 866c 867c 868c 869c 870c 871c 872c 873c 874c 875c 876c 877c 878c 879c 880c 881c 882c 883c 884c 885c 886c 887c 888c 889c 890c 891c 892c 893c 894c 895c 896c 897c 898c 899c 900c 901c 902c 903c 904c 905c 906c 907c 908c 909c 910c 911c 912c 913c 914c 915c 916c 917c 918c 919c 920c 921c 922c 923c 924c 925c 926c 927c 928c 929c 930c 931c 932c 933c 934c 935c 936c 937c 938c 939c 940c 941c 942c 943c 944c 945c 946c 947c 948c 949c 950c 951c 952c 953c 954c 955c 956c 957c 958c 959c 960c 961c 962c 963c 964c 965c 966c 967c 968c 969c 970c 971c 972c 973c 974c 975c 976c 977c 978c 979c 980c 981c 982c 983c 984c 985c 986c 987c 988c 989c 990c 991c 992c 993c 994c 995c 996c 997c 998c 999c 1000c

- 12 AURELIUS *Meditations* BK V SECT 9 270b c  
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17 PLOTINUS *First Ennead* TR II CH 6 TR III C 10 9 12b / *Fifth Ennead* TR III CH 2 4 216b 217d  
18 AUGUSTINE *City of God* BK V II CH I 10 264b d 271d  
19 AQUINAS *Summa Theologiae* PART I Q 1 A 1 3b 4a A 6 6b 7a A 8 ANS 7c 8d Q 14 A 1 REP 2 75d 76c Q 79 A 10 REP 3 423d-424d  
20 AQUINAS *Summa Theologiae* PART I II Q 57 A 2 36a 37b PART II II Q 9 A 2 ANS 424b 425a Q 19 A 7 ANS 469d-470c Q 45 A 1 A 5 598d 599d  
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31 D CARTES *Rules of Philosophy* 1 1a 2 / *Meditations* 70 d  
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 18 AUGUSTINE *City of God* BK VIII CH 4 266d  
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 23 HUBER *Letitia* PART I 60c 61a 84 d  
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 25 MONTAGNE *Essays* vs 327b d  
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 42 KANT *Pure Reason* 245a 248d passim / *Fund  
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 17 2--(D) II Par lipomen 7 2 / Job  
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 51 17--(D) OT *Ecclesiasticus* 1 6 18 37  
 11 15 17 1 6-14 19 18 21 13 24 43 37  
 45 31 5 30 31 51 3  
 NEW TESTAMENT *Matthe* 11 27 / *Li ke*  
 10 21 2 / *John* 1 4-5 9 3 19 21 8 32 16 12  
 14 / I *Corinthians* 1 17-2 16 3 16-20 4 10  
 8 2 3 / *Ephesians* 1 15 18 3 1 12 5 15 17 /  
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 18 AUGUSTINE *Confessions* BK IV par 23 5  
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 23 HUBER *Letitia* PART I 83b PART IV  
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 25 MONTAGNE *Essays* 208a 209 212a d  
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 30 BACON *Ad ament of Learning* 17b c  
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 31 D CARTES *Disco* s PART I 43c  
 32 MILTON *Padi Lost* BK VII [109-130] 219b  
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 33 PALCAL *Pe es* 425-455 243b 270a 793  
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 35 HUM *H m n Understand g* ECT X I DIV  
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 37 F DNG *T m Jones* 182b-c  
 40 G BROW *D c n d Fall* 308d 309a  
 42 KANT *P c t al Ras* 346b 347  
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 54 FREUD *C l i at n nd l s Dis content* 770d  
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 wisdom compared with divine wisdom  
 the folly or vanity of worldly wisdom  
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 2 2 16 26 14 8 28 38 41 34--(D)  
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 1d *The wisdom of God the defect of human wisdom compared with the new wisdom the folly or vanity of worldly wisdom*

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 25 8 16-17 11 5 12 8 12 / *Isaiah* 29 14 16  
 33 19 19 40 12 31 mp 40 28 44 24 25--(D)  
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 12 15 51 15 18--(D) *Jeremiah* 8 8 9 9 23  
 24 10 7 8 12 15 51 15 18 / *Ezekiel* 28 1 7--  
 (D) *Ezekiel* 31 7 / *Daniel* 2 20-23

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 9 1 4 13 17 17 7 8--(D) OT *Book of Wisdom*  
 7 15 16 8 1 4 9 1 4 13 17 17 7-8 /  
*Ecclesiasticus* 1 1 10 3 20-5 11 15 15 18 19  
 19 24 5 21 1 23 19 20 24 1-9 24 29  
 37 19-1 3 19 19-20 42 17 25--(D) OT  
*Ecclesiasticus* 1 1 10 3 21 6 11 15 15 19-  
 20 19 1 2 21 14 15 23 2, 29 24 1 14 35  
 39 37 22 24 39 4 25 42 17 26

New Testament *Matthew* 11 16-19 / *Luke*  
 7 31 35 16 8 / *John* 1 14 59 / *Roman*  
 11 33 36 / *I Corinthians* 1 7 2 16 3 16-20  
 8 1 3 / *Colossians* 2 2 3 8 / *James* 3 3 18  
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9 ARISTOTL *Ethics* bk X CH 8 [178b 20-23]  
 433b c / *Politics* K VI c 1 [1323b 2 25]  
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12 EPICETUS *Discourses* BK I CH 4 120d 121c  
 17 PLOTINUS *Fourth Enn ad* TR IV CH II 13  
 163c 165b / *Fifth Enn ad* TR VIII CH 4-6  
 241b 242d

III AUUSTINE *Confessions* K II par 8 14d  
 15a BK V par 5 28b c BK XII pa 20 103c d /  
*City of God* BK X c 1 2 296d 297a BK XI  
 1 328 d / *Christian Doctrine* BK CH  
 8 14 626 628b

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 2 ANS 125c d A 4 ANS REP 4 126c 127c  
 Q 27 A 1 REP 2 154c 155b Q 34 A 1 R P 4  
 185b 187b Q 39 A 8 210a 213a Q 44 3  
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20 AQUINAS *Summa Theologiae* PART II Q 5  
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25 MONTAIGNE *Essays* 212a 215a 238c 239c  
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30 BACON *Advancement of Learning* 17b c  
 19b c 98d 99b

32 MILTON *Paradise Lost* BK II [188 193] 115b  
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33 PASCAL *Pensees* 4 5-555 243b 270a

35 LOCKE *Human Understanding* BK II CH XVIII  
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 SECT III 272b BK IV CH V SECT 5-6 350a-c

35 BERKELEY *Human Knowledge* SECT 32 418d  
 419a

37 FIELDING *Tom Jones* 182b = 379c 380a

42 KANT *Pure Reason* 24 a b / *Practical Reason* on  
 303b 304b 324b 325a 344a-c 346a-c 354d  
 355d / *Judgement* 592a c

43 MILL *Utilitarianism* 455b

46 HEGEL *Philosophy of Right* ADDITIONS 164  
 144c d / *Philosophy of History* INTRO 138c  
 160b

48 MELVILLE *Moby Dick* 313b 314a

52 DOSTOEVSKY *Brothers Karamazov* BK V  
 130b c

## 2 Wisdom virtue and happiness

2a *Wisdom as an intellectual virtue its relation to other intellectual virtues especially science and understanding the vice or sin of folly*

OLD TESTAMENT *Psalms* 14 1 4 53 1 4--(D)  
*Psalms* 13 1 4 52 1 4 / *Proverbs* 8 12 10 14  
 12 15 16 14 9 33 15 2 16 21 23 1 24  
 18 5 21 11 24 9 / *Ecclesiastes* 2 13 45  
 7 4 7 25 26 8 5 9 13 18 10 1 3 12 15 /  
*Jeremiah* 8 8-9--(D) *Jeremiah* 1 8 8-9

Apocrypha *Wisdom of Solomon* 15 22 8 5  
 8 12 23 14 31 esp 13 1 2 14 11 4 14 22--  
 (D) OT *Book of Wisdom* 7 15 22 8 5-8  
 12 23 4 31 sp 13 1 2 14 11 14 14 22 /  
*Ecclesiasticus* 1 4 25 10 1 3 18 28-29  
 21 19 22 7-8 11 15 33 5 34 1 38 24 25  
 39 3--(D) OT *Ecclesiasticus* 1 4 24 31  
 1 1 3 18 8 29 21 14 22 22 7 18 33 5  
 34 1 38 25 26 39 1 3

New Testament *Matthew* 7 6-7 / *Romans*  
 1 18 5

4 HOBBS *Thiad* BK XIX [74 144] 137d 138c

7 PLATO *Catalus* 86 d / *Republic* BK IV  
 346a 355a esp 346c 347a 353d 354b BK VI  
 vi 383b 398c K IX 423c d / *Laws* BK III  
 670b c

8 ARISTOTLE *Topics* BK V CH 6 [136b 7 14]  
 188b c CH III [138 37 35] 191a BK VI CH 6  
 [145 27 32] 199a

9 ARISTOTLE *Ethics* K I CH 4 [1095b 10-13]  
 340c d CH 13 [1103 3 10] 348c d BK I CH 3  
 [1139b 14 18] 388b CH 6-11 389d 393b

- 11 NICOMACHUS *Arthmetica* BK I 811a 813a  
 12 EPICTETUS *Discourses* BK II CH 15 156a b  
 17 PLOTINUS *Fourth Ennead* TR IV CH 12 164b  
   / *Fifth Ennead* TR VIII CH 4-6 241b 242d  
 18 AUGUSTINE *Confessions* BK VII PAR 14 48a b  
   / *City of God* BK VIII C 110 271b c BK XIV  
   CH 28 397a d BK XIV CH 0 523d 524a  
 19 AQUINAS *Summa Theologiae* PART I Q 14  
   A 1 REP 2 75d 76c Q 79 A 9 ANS 422b-423d  
   A 10 REP 3 423d-424d PART I II A 1  
   RE 1 2 615d 616c  
 20 AQUINAS *Summa Theologiae* PART II Q 57  
   A 2 36a 37b B 66 A 5 79b 80c PART II II  
   Q 9 A ANS 424b-425a Q 45 A 1 ANS and  
   2 1 598d 599d A 2 ANS and REP 3 599d  
   600 A 3 ANS and REP 1 600c-601a A 4 REP  
   1 2 601a-c Q 46 603c 605a c  
 21 HOBBS *Leviathan* PART I 56d 60c d  
 22 MONTAIGNE *Essays* 521d 522a  
 31 DARTES *Rule* 1 la 2a  
 32 MILTON *Paradise Lost* BK VII [109-130] 219b-  
   220a / *Adopgus* a 392b  
 42 KANT *Fundamental Principles of Metaphysics of Morals* 260d  
   261d / *Practical Reason* n 337a 338c 360d  
   361d
- 26 Wisdom and man's knowledge of good and  
 evil the relation of wisdom to the moral  
 virtues
- OLD TESTAMENT *Genesis* 3 / 1 Kings 3 5-14-  
 (D) 11 Kings 3 5 14 / 11 Chronicles 1 7 12-  
 (D) 11 Paralipomenon 1 7 12 / Job 28.28 /  
 Psalms 14 1 4 37 30 53-(D) Psalms 13 1  
 4 36 30 52 / Proverbs 2 3 5-7 2 24 5 22-  
 23 6 6-8 32 33 7 4 5 8 9 9-18 10 8 19 3  
 31 1 2 12 16 13 1 14 10 14 8-9 16-18 29  
 15 124 33 17 10 18 6-7 19 3 24 9 28 7  
 29 3 / Ecclesiastes 2 26 7 9-10 25-26 8 5  
 10 2 15
- APOCRYPHA *Wisdom of Solomon* passim esp 1-  
 7 6 12 5 7 22 30 8 5 7 9 9-18 0 8 10  
 1 23 24 13 1-2 4 14 14 22-3 -(D)  
 OT Book of Wisdom passim esp 1 7 6 3  
 27 7 13 8 5 7 9 9-9 1 8 10 23 24  
 13 1 2 14 11 14 14 22 31 / Ecclesiasticus 1  
 4 1 14 1 26-27 11 5 16 17 17 18 27  
 19 18 5 11 12.22 6 2 10-18 23 2-3  
 27 1 13 39 1 43 33 45 B 47 2 20 50  
 28 29-(D) OT Ecclesiasticus 1 4 0 16-27  
 1 15 16 7 6 18 27 19 8-22 21 12 15  
 25 29 22 19 22 23 2 3 27 2 14 39 -15  
 43 37 45 3 47 14 2 50 30-31
- NEW TESTAMENT *Matthew* 7 26-7 / *Romans*  
 1 18 5 16 9 / *Philippians* 1 9-11 / *Colos-  
 sians* 1 9-10 / *James* 3 3 8  
 5 ARISTOTLE *Agamemnon* n [60-83] 53d 54a  
 5 SOCRATES *Alcibiades* I 348 [353] 14 d  
 6 THUCYDIDES *Politics* n Bar BK I 370a c  
 7 PLATO *Charmides* 7a 13 passim csp 7a  
   12d 13a / *Laestrygians* n 33a 37a / *Phaedrus*  
   56b 58a 64d esp 62a 64a / *Euthydemus* 69a  
   71a / *Cratylus* 86c d / *Symposium* 166c  
   167d / *Meno* 183c 184c 189b d / *Phaedo*  
   226a b 230d 234c esp 232a b 233d 234c /  
   *Republic* BK I 306c 308a BK III 337b d  
   BK IV 346a 355a BK VI VII 383d 398c /  
   *Critias* 485b-c / *Theaetetus* 530b 531a /  
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   *Seventh Letter* 801b-c 806b c 808c d
- 8 ARISTOTLE *Sophistical Refutations* CH 24  
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- 9 ARISTOTLE *Ethics* BK VI CH 5 389a d CH  
 12 13 393b 394d BK X CH 8 [1178 16-18]  
 432d / *Politics* BK VII CH 1 [1323 21 36]  
 527c d
- 12 EPICTETUS *Discourses* BK II CH 2 167d  
 168 BK III CH 177c 178d BK IV CH 5  
 228a 230b
- 14 PLUTARCH *Demetrius* 726a d
- 17 PLOTINUS *First Ennead* TR II CH 6-7 9a 10a  
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- 18 AUGUSTINE *City of God* BK XIV CH 20 523d  
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- 19 AQUINAS *Summa Theologiae* PART I Q 1 A 6  
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- 20 AQUINAS *Summa Theologiae* PART II Q 57  
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- 23 HOBBS *Leviathan* PART II 112a b
- 25 MONTAIGNE *Essays* 59c 60a 70d 72a 478c  
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- 27 SHAKESPEARE *All's Well That Ends Well*  
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- 31 DESCARTES *Discourse* PART II 49d 50b
- 31 SPINOZA *Ethics* P RT 4 PRO 4 463b d
- 32 MILTON *Comus* [331-489] 40b 44a esp [375-  
 385] 41b-42a / *Paradise Lost* BK VIII [316-  
 337] 239a b BK IX [679-779] 262a 264a  
 BK XI [94-98] 301a / *Samson Agonistes* [38  
 59] 340b
- 33 PASCAL *Pensées* 46 254b
- 35 LOCKE *Human Understanding* BK CH III  
 ECT 16 117a
- 37 FIELDING *Tom Jones* 31c d 182a-c
- 38 ROUSSEAU *Inequality* 344d 345c
- 42 KANT *Fundamental Principles of Metaphysics of Morals*  
 256a b / *Practical Reason* n 337a 338 360d  
 361d / *Preface to Metaphysics* c l *Elements of Ethics*  
 365b [fin r] 368b 369a 377b =
- 46 HEGEL *Philosophy of History* P RT I 279d  
 281
- 51 TOLSTOY *War and Peace* K V 194b 195a  
 197b K II 335a
- 52 DOSTOEVSKY *Notes from Underground* BK V  
 120b 121d

(2) *Wisdom, virtue and happiness*

## 2c Wisdom as a good its role in the happy life the place of the wise man in society

OLD TESTAMENT *Genesis* 41 33 37-45 / *Exodus*18 21 26 / *D ut nomoz* 1 13 / *I Kings* 3 528 4 29 34 10 1 10—(D) *III Kings* 3 5 84 29-34 10 1 10 / *II Chroni* 1 7 12 9 1 9—(D) *II Paralipomenon* 1 7 12 9 1 9 / *Job*28 12 20 / *Psalms* 90 12—(D) *Psalms* 89 12/ *Proverbs* 1 1 5 8-9 10 1 12 8 14 1 3 24

35 15 20 4 16 16 20 22 1 2 16 21 25 19 2

8 13 20 20 15 26 21 20-22 2 17 21 23 15-

16 19-25 24 1 14 26 18 27 11 29 2 6 29 8

/ *Ecclesiastes* 1 17 18 2 12 26 6 8 7 5 1-

1 16-19 8 15 9 11 18 10 1-6 12 8 12—

(D) *Ecclesiastes* 1 17 8 2 12 26 6 8 7 6

12 13 17 0 8 15 9 11 18 10 -6 1 8 1

/ *Ezekiel* 8 2 7—(D) *Ezekiel* 28 2 7 /*Daniel* 1 1 3 23 3 9 1 12 13APOCRYPHA *Tobias* 4 18—(D) *OT Tobias* 4 19/ *Wisdom of Solomon* *passim* esp 3 11 15 48-9 6 12 25 7 7 10 21—(D) *OT Book of**Wisdom* *passim* esp 3 1 15 4 8 9 6 13 277 7 10 1 / *Ecclesiasticus* 1 16-19 4 11 19

23 24 6 18 37 7 5 19 8 8-9 9 14 5 17 0

1 4 25 1 1 14 20 15 10 19 8 18 20 13 29-

31 21 12-13 15 17 1 24 26 22 16-17 24 1-

2 25 4-5 1 26 14 27 12 34 8 37 19-6

38 24 39 11 40 20 25 4 14 15 44 1 15 47

13 7 51 3 28—(D) *OT Ecclesiasticus* 1 20-

24 4 12 22 28 29 6 18 37 7 5 21 8 9-2

9 2 2 24 10 1 4 28 11 14 2 5 10 19

8 18 0 13 31 33 2 14 16 18 20 24 27 29

22 19-2 24 1 3 25 6 7 13 26 18 27 13

34 8 37 21 29 38 5 39 15 4 25 41

17 8 44 1 15 47 15 18 51 18-36 / *Su an a*—(D) *OT Daniel* 13 / *Bel and the Dragon*—(D)*OT Daniel* 1 14NEW TESTAMENT *Luke* 11 31 / *James* 3 13 184 *HOER Liliad* *K XI* [618-644] 78d 79a5 *SOPHOCLES Oedipus the King* [1 57] 99a d[300-462] 102 103c / *A tigne* [632 765]136c 137d [1348 353] 142d / *Aj x* [1226-

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5 *EURIPIDES Medea* [292 305] 214c d / *Bac-**chantes* [386-433] 343a b6 *H ARODORUS History* *AK I* 6c 8 *K VIII*

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6 *THUCYDIDES Peloponnesian War* *AK I*370a c 383d 384a *BK I* 402a 404d7 *PLATO Charmides* 13b d / *Laches* 33a 34b /*Potag* as 44a 45b / *Euthydemus* 69a 71a76a 83c 84a / *Symposium* 167 d / *Meno*183c 184c / *Apology* 207a 208 / *Phaedo*226a b 233c 234c / *Gorgias* 272b 273b291c 292b / *Republic* *AK* 346a 356a *pas-**sim* esp 346a 347a 354d 355a *BK V II*368c 401d / *Timaeus* 476a b / *Theaetetus*525c 526a 528c 531a / *Sit sman* 598b 608d/ *Philebus* 609a-639a c esp 635c 639a c /*Laws* *AK I* 643c d = 655b 656a *AK I*669b 671b *BK V* 688d *BK XII* 796b d /*Seventh Letter* 801b 802c 803c 804b 806b c

808c 809a

8 *ARISTOTLE Metaphysics* *BK I CH I* [981<sup>b</sup> 132-] 500a c 1 500b 501c *BK XII CH 7* [102<sup>b</sup>

13 29] 602d 603a

9 *ARISTOTLE Ethics* *BK I CH 5* [1095<sup>b</sup> 13 1095<sup>b</sup>4] 340d 341a *CH 8* [1098<sup>b</sup> 19-2] 344a b *BK**VI CH 7* [1141 18 17] 390a c *CH 8* 390d 391c*CH 12* [1143<sup>b</sup> 17 1144 6] 393b c *BK VII CH 12*[1152<sup>b</sup> 33-1153 8] 404a b *BK X CH 2* [1172<sup>b</sup> 26-32] 496d 427a *CH 7* 8 431d-434a / *Politics**BK VII CH I* [1323<sup>b</sup> 21-36] 527c d *CH 2* [13 4<sup>b</sup>23 35] 528b *CH 3* [1325<sup>b</sup> 14 32] 529d 530a11 *LYCOMACHUS Arithmetic* *BK I* 811d12 *NICOMACHUS Nature of Things* *AK II* [1-61]15a d *BK V* [1 54] 61a d [1113 1135] 7 c d*BK VI* [1-42] 80a d12 *EPICTETUS Discourses* *BK III CH 22* 195a

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- 37 FIDING *T m fo s* 182a c
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- OLD TESTAMENT I *Isaiah* 35 8 4 29-34 10 1 9-(D) III *Isaiah* 35 28 4 29-34 0 / *II Chronicles* 7 -(D) II *Paraphrase* m no 17 2 / *Job* 32 7-9 / *Psalms* 90 11 10-(D) *Psalms* 89 2 110 / *Proverbs* 1 5-6 2 1-9 4 5 13 8 1 32 33 9 6 1 3 4 2 13 1 4 6 33 5 27 4 3 33 16 23 17 6 24 8 15 19 8 2 5 2 22 17 21 23 2 3 4 3 4 / *Ecclesiastes* 1 4 2 14 8 16-17
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## CROSS REFERENCES

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- The relation of wisdom to other intellectual virtues see SCIENCE 1a(1) VIRTUE AND VICE 2a(2)
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- The conception of the philosopher king or of the place of the wise man in society see MONARCHY 2b PHILOSOPHY 4c STATE 8b
- The conception of philosophy as the love of wisdom and for the distinction between the sophist the philosopher and the wise man see PHILOSOPHY 6a-6b TRUTH 8c

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups.

I Works by authors represented in this collection

II Works by authors not represented in this collection

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CH 54

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## Chapter 102 WORLD

### INTRODUCTION

HE who does not know what the world is writes Marcus Aurelius does not know where he is. And he who does not know for what purpose the world exists does not know who he is nor what the world is. According to the Stoic emperor for whom there is one universe made up of all things and one God who pervades all things man has only to exercise the divine spark of reason in himself in order to be at home in a world which reason rules.

He does not hesitate long before the dilemma that it is either a well arranged universe or a chaos huddled together. In the belief that it is through and through an orderly world—a cosmos rather than a chaos governed by providence rather than by chance—Aurelius is willing to assume whatever place destiny allots him in the universal scheme. Everything harmonizes with me, he says, which is harmonious to thee. O Universe.

With a Christian's faith in God's plan and providence Montaigne is also willing to conceive the universe as the stage on which man acts his destined part. But suppose Montaigne adds that we consider man alone without foreign assistance, armed only with his own proper arms and unfurnished with the divine grace and wisdom which is all his honor, strength and the foundation of his being. How then does the world appear? Is it in all its vastness the human habitat—the home of man, its lord and master?

Man deceives himself. Montaigne thinks if he thus pictures the world in terms of his own reason and knowledge. What could lead him to believe he asks that this admirable movement of the celestial arch, the eternal light of those planets and stars that roll so proudly over his head, the fearful motions of that infinite ocean were established and continue so many ages

for his service and convenience? Can anything be imagined so ridiculous as that this miserable and wretched creature who is not so much master of himself should call himself master and emperor of the world?

If as Montaigne thinks he should man feels and sees himself lodged here in the dirt and filth of the world, nailed and riveted to the worst and dearest part of the universe in the lowest story of the house and most remote from the heavenly arch, how absurd for him to imagine himself above the circle of the moon and bringing heaven under his feet. Except by the vanity of the same imagination by which he equals himself to God, how can he regard himself as occupying an exalted position in the universe?

Deprived of the religious faith that he is made in God's image and that all the rest of the visible universe is made for him, only presumption or conceit can save man from being dwarfed by the world. But science robs man of such conceit according to Freud. The cosmology that is associated in our minds with the name of Copernicus displaces man and shrinks him. Humanity cannot hold on to its naive self-love. Freud writes when it realizes that the earth is not the center of the universe but only a tiny speck in a world system of a magnitude hardly conceivable.

NOT ONLY IN THE REFLECTIONS of Aurelius, Montaigne and Freud but throughout the tradition of the great books the conception of the world or universe is inseparable from the ideas of God and man. These three ideas always interpenetrate each other though the resulting pattern of thought varies according to the direction in which thought moves from any one of the three to the other two.

Sometimes the whole universe lies on one

side of the infinite distance between the Creator and His creation and man has a special place of honor in the hierarchy of beings which constitutes the order of the created world. Though man is greater than the earth he treads on the skies he watches the whole world is less than God. Who has made it out of nothing and Who in the freedom of His act of creation is unaffected by the world's coming to be or passing away. On this view taken by Christian theologians, God is not part of the world the world is not part of God nor is there any whole which embraces both and if world means the physical totality then man belongs both to this world and to another—the realm of spiritual creatures which is also part of the created universe.

Sometimes world means the all embracing universe uncreated and co eternal with the divinity which dwells in it a thing of soul as well as body including mind as well as matter. Whether God is the prime mover of the universe the transcendent One from which emanates in all degrees of being the multiplicity of intelligible and sensible things the infinite substance which exceeds the sum of all the finite things that exist only as its modifications or the Absolute Spirit which manifests itself historically in both physical and psychical nature—on any of these views cosmology merges with theology as in the theories of Aristotle Plotinus Spinoza and Hegel. For Spinoza and Hegel as for the Stoics to know the world is to know God. Its order or structure is more than divinely instituted. It is the indwelling divinity itself.

Such views of the world tend for the most part to look upon the individual man as a microcosm mirroring the macrocosm. The world's body and soul, its matter and mind are there to be seen in miniature. Considering the philosophers who assert that mind is the king of heaven and earth Socrates suggests in the *Philebus* that in reality they are magnifying themselves. Nevertheless the doctrine of a world-soul animating the body of the universe is repeatedly proposed in the dialogues of Plato as a way of understanding man and that mad or at least cryptic Platonist Captain Ahab gazing on the gold doubloon he has nailed to the mast as a reward for sighting Moby Dick observes in

soliloquy that this round gold is but the image of the rounder globe which like a magician's glass to each and every man in turn but mirrors back his own mysterious self.

A third alternative remains. Sometimes as with Lucretius and later philosophers of a materialist cast the world is all there is and all there is of it can be reduced to atoms and the void. It is thrown together by blind chance rather than designed by a presiding intelligence. The universe obeys no laws except the laws of its own matter in motion. Rid of its haughty lord's nature according to Lucretius is seen to do all things spontaneously of herself without the meddling of the gods. For their own happiness Lucretius exiles his papier maché gods to the interspaces where they lead a life without care. But man is not so fortunate.

In a world that is not made for him and in which godless he must be entirely self reliant man is burdened with heavy cares. Since he is one of nature's progeny he may not be wholly alien in this world of material forces but neither is he like a beloved son assured of nature's hospitality. The dominant note here is that of man against the world and in this unequal struggle science alone gives him the sense—or perhaps the illusion—that at least in his little corner of the world his mind may dominate. Yet from time to time defeat reminds him that the world remains unruly. Bridle its matter and harness its energies as he will he holds no check-rein to prevent his being overthrown.

AS THE CHAPTER ON NATURE indicates the word nature in one of its meanings seems to be synonymous with world. This fact as well as the various ways in which world has been used in the foregoing discussion requires us to note a certain ambiguity. When we speak of the world our meaning may range from the earth or globe which man inhabits to the solar system in which our planet revolves and beyond that to the whole physical universe however far flung. We also use world to signify an entire realm of things which is distinctively set apart from another order of existence as when we speak of material and spiritual worlds or when we refer to the world of thought or the world of sense. Such phrases as world government and world peace use world in a political sense.

which evokes the image of the whole order of human society upon this globe

We shall restrict ourselves in this chapter to that sense of world in which it signifies the object of cosmological speculations and controversies. We are concerned with the idea of the universe or cosmos. As we have already observed, the universe may be quite differently conceived according to the way in which it is related to God, but it is almost always conceived as that totality in which man and his earth and solar system exist, and outside of which nothing can exist except God. According to the theologians, the angelic hierarchies are no exception, for they fall within the created universe. But philosophers like Plato and Plotinus, who identify the world with the physical universe, set apart from it the eternal ideas or the order of the pure intelligences.

The traditional issues concerning the world or universe so understood can be summarized by three basic questions. Are there many worlds or is there only one? What is the structure of the world? Does the world have a beginning and does it have an end?

The first of these questions seems to violate the meaning of world as *the* universe—the complete totality of things. How can there be more than one *all*? But that difficulty, as we shall see, may be avoided by the hypothesis of a plurality of worlds succeeding one another in infinite time. It may even be met by the supposition that the infinity of space permits the possibility of two or more coexistent but unrelated worlds. Considerations of the time and space of the world, amplified in the chapters on SPACE and TIME, have a bearing on this issue of one or many worlds.

The second question presupposes agreement that the world has a structure, for if it does not, no problem arises concerning what that structure is. Such agreement is present in the tradition, and is unaffected by the dispute over the role of chance or design in the world's production, and by the controversy concerning the world's creation. As Harvey points out, the Greek word *cosmos* connotes order and beauty. Its opposite is chaos.

Writers may disagree about an original chaos prior to the formation of the cosmos. Plato, for example, refers to a time when the elements

were all without reason and measure — before they were arranged so as to form a universe. Milton also writes of a time when yet this world was not, and *Chaos* wild reign'd where these Heav'ns now rowl. In the dark, illimitable Ocean without bound — before the Heav'ns and Earth rose out of *Chaos* — eldest Night and *Chaos*, Ancestors of Nature, held eternal *Anarchie*. In contrast, Aristotle maintains that chaos or Night did not exist for an infinite time prior to the world, and he argues against the theologians who generate the world from Night.

But these differences of opinion leave the main point unaffected. The world is a cosmos, not a chaos. The universe has some order. Even those who doubt the perfection of its order, or who point out how it is marred by evil and irrationality, affirm an order or structure according to which the universe hangs together and is in some degree intelligible to man. The disputed question of the world's structure therefore centers on what the structure is. What precisely is the principle or pattern of cosmic coherence? By what image or analogy shall man try to hold the world before his mind as if it were a single intelligible object?

This problem, as well as the issue concerning one or many worlds, cannot be completely discussed apart from the last of the three questions — the question of the world's beginning and end. For example, if world follows world in succession, each must have a beginning and an end. So too, the world's structure takes on a different aspect for those who affirm and those who deny its creation by a divine intelligence, and according to at least one view of the order in the universe, men are persuaded that it must be made or ruled by reason, and argue against its being the result of chance.

But the question of the world's beginning must not be confused with the issue of creation, or the problem of the world's relation to God. Aquinas may agree with Berkeley's criticism of the ancient philosophers who maintained the being of a God while holding Matter to be uncreated and co-eternal with Him, but he does not wholly agree with Hobbes that to say the world was not Created, but Eternal (seeing that which is Eternal has no cause) is to deny there is a God. For Aquinas to deny cre-

ation is to deny God but whether the created world ever began to be is a question for faith not reason. Nor does the denial of creation necessarily imply the eternity of the world—at least not in the sense in which Lucretius imputes the world to have both a beginning and an end.

TWO GREAT EXPONENTS of atomism in the tradition of the great books—Lucretius and Newton—show us that agreement on some of the basic questions of cosmology does not preclude disagreement on others. Both conceive the world as built of indestructible atomic particles. They conceive its structure to be determined by the motions of its parts both large and small through the forces exerted by body upon body. Both furthermore favor the hypothesis of a plurality of worlds but only Lucretius holds that this world had a chance beginning and will come to a similar end.

When Lucretius refers to the infinite universe which bounded in no direction spreads out free from limit he does not mean this world in which man now lives. He means the void in which our world as well as other worlds are formed out of the infinite number of atoms which combining and separating cause the birth and death of worlds. In no wise can it be deemed probable he writes when space yawns illimitable towards all points and seeds in number numberless and sum unfathomable fly about in manifold ways driven on in ceaseless motion that this single earth and heaven have been brought into being that those bodies of matter so many in number do nothing outside them.

The existence of other worlds than this seems probable to him not only because of the infinity of the universe in respect to its space and matter but also because the atoms form each world without purpose without foresight without result. As chance produced this world so it can produce others. Hence Lucretius argues you must admit that there are elsewhere other combinations of matter like to this which ether holds in its greedy grasp. You must admit that in other parts of space there are other earths and various races of men and kinds of wild beasts. Moreover in the sum of all there is no one thing which is begotten

single in its kind. On this principle he thinks you must admit that earth and sun moon sea and all things else are not single in their kind but rather in number past numbering.

By calling the atoms eternal bodies and first beginnings Lucretius indicates that it is each particular world not the universe of matter and the void which has a beginning and an end. The atoms or first beginnings fall into arrangements such as those out of which this our sum of things has been formed he explains not by design but because many in number and shifting about in many ways throughout the universe they are driven and tormented by blows during infinite time past. Thus a world is born and so even does it grow by the addition of bodies from without. But as a world is born and grows it also decays and dies. Many bodies ebb away and withdraw from things Lucretius writes but still more must join them until they have touched the utmost point of growth. Then piece by piece age breaks their powers and matured strength and wastes away on the side of decay until finally in this way even the walls of the wide world all around will be stormed and fall to decay and crumbling ruin.

According to Newton the atoms are indestructible but not eternal bodies. Upon their indestructibility or permanence depends the uniform and enduring texture of nature in all ages. That Nature may be lasting Newton says the changes of corporeal things are to be placed only in the various separations and new associations and motions of these permanent particles. But for Newton the invisibility of the ultimate particles of matter does not preclude their being created. It seems probable to me he writes that God in the beginning formed matter in solid massy hard impenetrable movable particles of such size and figures and with such other properties as most conduced to the end for which he formed them.

Not through the chance colligation of atoms but through their being variously associated in the first creation by the counsel of an intelligent agent is the world formed. For it became him who created them to set them in order. And if he did so Newton adds it is unphilosophical to seek for any other origin of the

world or to pretend that it might arise out of a chaos by the mere laws of nature though being once formed it may continue by those laws through many ages

Newton differs from Lucretius in these particulars but shares his view of the probability of many worlds. Since space is divisible *in infinitum* and matter is not necessarily in all places it may also be allowed. Newton declares that God is able to create particles of matter of several sizes and figures and in several proportions to space and thereby to vary the laws of nature and make worlds of several sorts in several parts of the universe. At least he continues I see nothing of contradiction in all this

OTHER WRITERS SEEM TO FIND a plurality of worlds repugnant to reason if not flatly contradictory. Plato for example appears to think that the possibility of other worlds is inconsistent with the perfection of this one—certainly if this world is made in the image of the eternal ideas. Because the original of the universe contains in itself all intelligible beings. Plato's Timaeus argues that there cannot be many worlds but one only if the created copy is to accord with the original. It belongs to the world's perfection to be solitary and for this reason Timaeus explains the creator made not two worlds or an infinite number of them but there is and ever will be one only begotten and created heaven

Aristotle reasons differently to the conclusion that there cannot be more worlds than one. The conclusion follows in his view from the impossibility of an infinity of body or matter and with it an infinity of space. The universe is certainly a particular and a material thing he writes. If it is composed not of a part but of the whole of matter then though the being of universe and of this universe are still distinct yet there is no other universe and no possibility of others being made because all the matter is already included in this. He thinks it a tenable hypothesis that the world as a whole includes all its appropriate matter hence he concludes neither are there now nor have there ever been nor can there ever be formed more heavens than one but this heaven of ours is one and unique and complete

On theological grounds Augustine challenges those who suppose either that this is not the only world but that there are numberless worlds or that indeed it is the only one but that it dies and is born again at fixed intervals and this times without number. On theological grounds also though with a different conception of God and the universe Spinoza maintains that besides God no substance can be or be conceived that God is one which is to say in nature there is but one substance and it is absolutely infinite that all finite things have their existence in the one infinite substance of God and that God is not only the cause of the commencement of their existence but also of their continuance in existence. Because God's liberty consists in Spinoza's conception in acting according to the necessity of His own nature not in freedom of will he insists that things could be produced by God in no other way and in no other order than that in which they have been produced. This is not merely the only actual but the only possible world

Aquinas agrees that there is only one actual world. The very order of things created by God he writes shows the unity of the world. Since whatever things come from God have relations of order to each other and to God himself it is necessary that all things should belong to one world. Therefore Aquinas continues only those were able to assert the existence of many worlds who do not acknowledge any ordaining wisdom but rather believed in chance as did Democritus who said that this world besides an infinite number of other worlds was made by a coming together of atoms

Aquinas places God's liberty in freedom of choice and so he contemplates the possibility of other worlds than this. This is the only world God actually created but since in creating

God does not act from natural necessity and since in the act of creation the divine will is not naturally and from any necessity determined to these creatures Aquinas concludes that in no way is the present scheme of things produced by God with such necessity that other things could not come to be

As the chapter on WILL indicates Spinoza holds that God does not have the power of free

choice. He therefore argues that the actual world being the only possible one cannot be bettered. All things he writes have been produced by God in the highest degree of perfection since they have necessarily followed from the existence of a most perfect nature. Aquinas on the other hand denies that this is the best of all possible worlds. Given the things which actually exist, he says, the universe cannot be better for the order which God has established in things and in which the good of the universe consists, most befits things.

Yet God could make other things or add something to the present creation and then there would be another and a better universe.

OTHER SPECULATIONS CONCERNING the cosmos seem to divide into three sorts according as they consider the matter and space, the size and shape of the universe, or they try to discover the principle by which all things are ordered to ether in one world, or they examine what ever order is found and judge its perfection its goodness and its beauty.

The first of these three types of cosmological theory belongs primarily to the physicist and the astronomer. From Aristotle to Einstein observation, mathematical calculation and imaginative hypotheses have propounded the alternatives of a finite or infinite universe or as Einstein prefers to put it, of a finite yet unbounded universe as opposed to one which is either simply finite or both infinite and unbounded.

Archimedes in the *Sand Reckoner* undertakes to show that the number of the grains of sand in a universe whose outer sphere extends to the distance of the fixed stars is however large, a finite rather than an infinite number. Lucretius and Newton as we have seen embrace the opposite hypothesis while Aristotle defends the proposition that the universe is finite, bounded and spherical in shape. Among the great astronomers Copernicus and Kepler no less than Ptolemy conceive the world as bounded by an outer sphere. Copernicus opens his treatise by remarking that the world is like a globe, whether because this form is the most perfect of all, or because it is the figure having the greatest volume, or because the separate parts of the world, *i.e.* the sun, moon and stars

are seen under such a form, or because all things seek to be delimited by such a form. It is apparent in the case of drops of water and other liquid bodies when they become delimited through themselves.

A spherical or (if matter is not distributed uniformly) an elliptical or quasi-spherical universe will be necessarily finite according to Einstein but it will also have no bounds. Among the conceivable closed spaces without limits Einstein points out that the spherical space (and the elliptical) excels in its simplicity since all points on it are equivalent. But whether the universe in which we live is infinite or whether it is finite in the manner of the spherical universe, he thinks is a question that our experience is far from being sufficient to enable us to answer. Recent astronomical observations of the velocity of the receding nebulae have suggested the hypothesis of an infinitely expanding universe.

These cosmological theories are more fully discussed in the chapter on SPACE. Another point of physical speculation concerning the uniformity of the world's matter—not the uniformity of its distribution but the sameness or difference in kind of terrestrial matter and the matter of the heavenly bodies—is considered in the chapters on ASTRONOMY and MATTER. We turn therefore to the question of the world's structure apart from its size, its shape and the disposition of its matter.

THREE METAPHORS SEEM to express the great traditional images of the world's structure. The world is a living organism. *It is like an animal* with a soul, even a soul endowed with reason. The world is a multitude of diverse and unequal individual things forming a hierarchy and associated according to their natures and functions for the common good of the whole. *It is like a society*, a society under divine law and government. The world is a system of interdependent moving parts linked together from the least to the greatest in an unbroken chain of causation. *It is like a machine*.

The first of these world views is proposed by Plato. It is not the earliest of the three, perhaps, if the atomistic cosmology of Democritus which Lucretius later expounds can be interpreted as adopting the mechanical analogy. F

mechanism may however be thought to await 17th century developments in the science of mechanics when for Descartes Newton and others the laws of mechanics become the only laws of nature. The conception of the world as a divinely instituted and governed society seems to be a product of Jewish and Christian faith. Though that expression of it which includes a hierarchical ordering of all things from the elemental bodies to the angels belongs to Christian theologians and poets there may be a pre-Christian version in the Stoic theory of the world as governed by a divine intelligence.

According to Plato in the *Timæus* God desired all things to be good and nothing bad and he found that no unintelligent creature taken as a whole was fairer than the intelligent taken as a whole and that intelligence could not be present in anything which was devoid of soul. For which reason Timæus explains when he was framing the universe he put intelligence in soul and soul in body. Wherefore using the language of probability we may say that the world became a living creature truly endowed with soul and intelligence by the providence of God. Since his intention was that the animal should be as far as possible a perfect whole and of perfect parts he gave it self sufficiency a spherical body—which figure comprehends within itself all other figures—and circular movement. The universe did not require therefore sense organs or hands or feet.

Such was the whole plan of the eternal God about the god that was to be to whom for this reason he gave a body smooth and even having a surface in every direction equidistant from the center. And in the center according to Timæus he put the soul which he diffused throughout the body making it also to be the exterior environment of it and he made the universe a circle moving in a circle. Having these purposes in view he created the world a blessed god.

The theory of a world soul and of an animated organic universe appears not only in the *Timæus* but also in other Platonic dialogues. In the *Phædrus* for example Socrates says that the soul in her totality has the care of immate being everywhere and in the *Laus* the Athenian Stranger asking whether it is the

soul which controls heaven and earth and the whole world replies that the best soul takes care of the world and guides it along the good path.

In somewhat different form the theory of a world soul appears in Plotinus according to whom the cosmic soul belongs only to the material universe and is therefore third and lowest in the scale of the authentic existents. It appears in Gilbert and Kepler though in the latter largely as the expansion of a metaphor. It is considered by William James whose comment on the materialistic or so called scientific conceptions of the universe is that they leave the emotional and active interests cold whereas he thinks the perfect object of belief would be a God or Soul of the World represented both optimistically and moralistically.

All science and all history would thus be accounted for in the deepest and simplest fashion.

Precisely because exponents of the doctrine attribute divinity to the world soul Augustine and Aquinas object to it. Impious and irreligious consequences follow in Augustine's opinion from the notion that God is the soul of the world and the world is as a body to Him. To those who compare the microcosm with the macrocosm by saying that the soul is in the body as God is in the world Aquinas replies that the comparison holds in a certain respect namely because as God moves the world so the soul moves the body. But it does not hold in every respect for the soul did not create the body out of nothing as God created the world.

Furthermore according to Aquinas God is not a part of it but far above the whole universe possessing within Himself the entire perfection of the universe in a more eminent way. God in relation to the world should not be conceived by analogy with soul and body but by comparison to a king who is said to be in the whole kingdom by his power although he is not everywhere present. This analogy fits better with the conception of the universe as a society under divine government.

Although Aurelius reminds himself to regard the universe as one living being having one substance and one soul he also takes the view that the world is a community of things ordered to one another. The intelligence of

the universe is social he writes Accordingly it has made the inferior things for the sake of the superior and it has fitted the superior to one another It has subordinated co-ordinated and assigned to everything its proper portion This view of the universe as a community is the one most fully developed in Christian thought Augustine and Aquinas go much further than Aurelius in depicting the hierarchy of things and their ordination to one another under the eternal law Both take as a basic text from Scripture the statement that God has ordered all things in measure and number and weight According to its dignity or worth each thing occupies a place and plays its part in the general scheme of things.

The parts of the universe are ordered to each other Aquinas writes according as one acts on another and according as one is the end and exemplar of the other The government of the universe by the divine reason produces a perfection of order in the whole which is the intrinsic common good of the universe and directs each thing to the attainment of its end in which consists its own perfection It belongs to the divine goodness Aquinas says as it brought things into being to lead them to their end And this is to govern But neither the perfection of each thing nor the order of the universe itself is the ultimate end of divine government Some good outside the whole universe he says is the end of the government of the universe—for the end of all things as their beginning lies in the goodness of God

THE CONCEPTION OF THE WORLD as divinely governed and cared for by divine providence excludes chance as a factor in the formation of the world or in its structure With Democritus and Epicurus in mind Aquinas points out that certain ancient philosophers denied the government of the world saying that all things happened by chance But the rejection of chance does not seem to be peculiar to Christians faith or theology

Plato and Plotinus also deny that the order in the universe can be the result of chance For Plato it is not merely that the world is animated by a rational soul but also as the Athenian Stranger suggests in the *Laws* that it is a work of art rather than of nature or chance

Atoms or elements—it is in either case an absurdity an impossibility writes Plotinus to hand over the universe and its contents to material entities and out of the disorderly swirl thus occasioned to call order into being According to him there is nothing undesignated nothing of chance in all the process Aristotle too speaks against the atomists who ascribe this heavenly sphere and all the worlds to spontaneity or chance When one man he writes referring to Anaxagoras said that reason was present—as in animals so through out nature—as the cause of order and of all arrangement he seemed like a sober man in contrast with the random talk of his predecessors

It might be supposed that those who view the world through the eyes of Newton or Descartes (when they say as Fielding does the world may indeed be considered as a vast machine) would be inclined to favor chance rather than reason or design But this does not seem to be the case at least not for Newton or Descartes

This most beautiful system of the sun planets and comets Newton declares could only proceed from the counsel and dominion of an intelligent and powerful Being

Descartes asks us to consider what would happen if God were now to create a new world somewhere in an imaginary space Suppose that He agitated its matter in various ways so that there resulted a chaos confused as the poets ever feigned and concluded His work by merely lending His concurrence to Nature in the usual way leaving her to act in accordance with the laws which He had established Some thing like this orderly universe would be the result The laws of matter in motion Descartes thinks are of such a nature that even if God had created other worlds He could not have created any in which these laws would fail to be observed

In the tradition of the great books only the ancient atomists seem to take the position that the universe is a thing of chance But this does not mean that except for the atomists agreement prevails concerning the manifestation of purpose or design in the world's structure Is the kosmos an expression of intelligence rational in its inward nature or James asks a brute external fact pure and simple? James finds two answers to this question which



calls the deepest of all philosophic problems—one which regards the world as a realm of final purposes that exists for the sake of something and one which sees the present only as so much mere mechanical sprouting from the past occurring with no reference to the future.

As the chapter on MECHANICS indicates Newton and Descartes are in a sense mechanists yet they also affirm final causes—ends or purposes—in the plan of the universe. Newton speaks of God's most wise and excellent contrivance of things and final causes. It is true that Descartes while referring to the universe as a work of divine art says that God's purpose may not be visible to us in all its arrangements. Therefore the species of cause termed final finds no useful employment in physical (or natural) things for it does not appear to me he explains that I can without temerity seek to investigate the (inscrutable) ends of God. But this states a rule of method in natural science not the denial of a cosmic plan.

That denial is to be found however most plainly in Spinoza. It is commonly supposed he writes that all things in nature like men work to some end and indeed it is thought to be certain that God Himself directs all things to some sure end for it is said that God has made all things for man and man that he may worship God. Against this view which he regards as the most besetting of all human prejudices Spinoza holds that nature does nothing for the sake of an end for that eternal and infinite Being whom we call God or Nature acts by the same necessity by which He exists. Since He exists for no end He acts for no end and since He has no principle or end of existence He has no principle or end of action. A final cause as it is called Spinoza continues nothing therefore but human desire in so far as this is considered as the principle or primary cause of anything.

Because man discovers things in nature which serve as means to his own ends man is led to infer Spinoza declares that some ruler or rulers of nature exist endowed with human liberty who have taken care of all things for him and have made all things for his use and hence he affirmed that the gods direct every thing for his advantage in order that he may

be bound to them and hold them in the highest honor. Thus has this prejudice been turned into a superstition and has driven deep roots into the mind—a prejudice which was the reason why everyone has so eagerly tried to discover and explain the final causes of things. The attempt however to show that nature does nothing in vain (that is to say nothing which is not profitable to man) seems, in Spinoza's opinion to end in showing that nature the gods and man are alike mad.

WHERE SPINOZA DENIES purpose or plan in the universe because everything exists or happens from the necessity of efficient not final causes (and ultimately from the necessity of nature or God himself) Lucretius argues against design or providence from the imperfection of the world. To those who suppose that the gods designed all things for the sake of men Lucretius says: Even if I did not know what first beginnings are yet this judging from the very arrangements of heaven I would venture to affirm and led by many other circumstances to maintain, that the nature of the world has by no means been made for us by divine power so great are the defects with which it stands encumbered.

Spinoza would dismiss this argument. He thinks he can easily answer those who ask: How is it that so many imperfections have arisen in nature—corruption for instance of things till they stink deformity exciting disgust confusion evil crime etc? He holds that the perfection of things is to be judged by their nature and power alone nor are they more or less perfect because they delight or offend the human senses or because they are beneficial or prejudicial to human nature.

Others deal differently with the apparent imperfections in the world. Descartes, for example makes the point that the same thing which might possibly seem very imperfect if regarded by itself is found to be very perfect if regarded as part of the whole universe. Marcus Aurelius goes further. Nothing is injurious to the part he writes if it is for the advantage of the whole. By remembering then that I am part of such a whole I shall be content with everything that happens.

In terms of another principle Berkeley asks

us to consider that the very blemishes and defects of nature are not without their use in that they make an agreeable sort of variety and augment the beauty of the rest of creation as shades in a picture serve to set off the brighter and more enlightened parts. As for the mixture of pain or uneasiness which is in the world pursuant to the general laws of nature he thinks that this in the state we are in at present is indispensably necessary to our well being.

In the opinion of those philosophers who after an exact scrutiny of all the phenomena of nature conclude that the *whole* considered as one system is in every period of its existence ordered with perfect benevolence. Hume sees only a specious if also sublime consolation for all human ills. But he does not think such convictions ever really work in practice. These enlarged views may for a moment he says please the imagination of a speculative man who is placed in ease and security but neither can they dwell with constancy on his mind even though undisturbed by the emotions of pain or passion much less can they maintain their ground when attacked by such powerful antagonists.

But according to theologians like Augustine and Aquinas evil does not and cannot exist in the world except as a privation or corruption of some good. Evil neither belongs to the perfection of the universe nor comes under the order of the universe writes Aquinas except accidentally that is by reason of some good joined to it. But how does evil enter into a world created by a supremely good deity? What God chiefly intends in created things Aquinas answers is the good of the order of the universe. Now the order of the universe requires that there should be some things that can and sometimes do fail. And thus God by causing in things the good order of the universe consequently and as it were by accident causes the corruptions of things. Furthermore the order of justice belongs to the order of the universe and thus requires that penalty should be dealt out to sinners. And so God is the author of the evil which is penalty but not of the evil which is fault.

order of the world in the problem of evil and to related issues. When Freud for example in commenting on what he calls the religious *Weltanschauung* says that earthquakes floods and fires do not differentiate between the good and devout man and the sinner and unbeliever he raises questions which are considered in the chapters on JUSTICE PUNISHMENT and GOOD AND EVIL. The perfection of the universe also leads to a discussion of the beauty of its order. The praises which are differently voiced by the astronomers the theologians and the poets extol not the visible beauties of nature but the intelligible beauty of the cosmic structure—perceptible to a Kepler in his mathematical and musical formulation of the harmonies of the world.

In addition to questions of its goodness and beauty the problem of the world's order is sometimes stated in terms of its rationality. For some writers such as Hegel rationality is affirmed as the very foundation of existence.

*What is rational is actual and what is actual is rational* he writes. On this conviction the plain man like the philosopher takes his stand and from it philosophy starts in its study of the universe of mind as well as the universe of nature. To others like William James the whole war of the philosophies is over that point of faith. Some say that they can see their way already to the rationality others that it is hopeless in any other but the mechanical way. To some the very fact that there is a world at all seems irrational.

Against the Hegelian notion of the world as a perfectly ordered whole (to which James applies the epithet *block universe*) James proposes the conception of a concatenated universe. The real world as it is given at this moment James declares is the sum total of all its beings and events now. But can we think of such a sum? Can we realize for an instant what a cross section of all existence at a definite point in time would be? While I talk and the flies buzz a sea gull catches a fish at the mouth of the Amazon a tree falls in the Adirondack wilderness a man sneezes in Germany a horse dies in Tartary and twins are born in France.

ON THIS POINT OF THE PERFECTION of the universe the great conversation passes from the

What does that mean? James asks. Does the contemporaneity of these events with each

other and with a million more as disjointed as they form a rational bond between them and unite them into anything that means for us a world? It would certainly not mean a universe or *cosmos* for those who like Hegel insist upon the pervasive unity of the universe as a whole which completely and rationally relates all its parts. But for James who conceives the universe in a pluralistic rather than in a monistic fashion the collateral contemporaneity of all things and nothing else is the *real* order of the world.

ALL OF THESE ISSUES carry the discussion back to what is perhaps the decisive question—the question of the world's origin. According as men believe it to be the purposeful work of a beneficent intelligence or the product of blind chance or of equally blind necessity their other judgments about the world tend in the general directions of optimism or pessimism. Yet this is only true for the most part.

The problem of the world's origin involves some technical issues which do not seem to have such consequences for man's appraisal of the universe. One is the question whether a created world has a beginning in time or is co-eternal with its creator. As is indicated in the chapters on ETERNITY and TIME whichever way the disputed question concerning the eternity of the world is answered its creation may be affirmed or denied. Those who think the world is created declare that the power needed to maintain the world in being is identical with the creative power needed to initiate it. The divine conservation, as Berkeley points out, is conceived as a continual creation.

The most difficult point in issue concerns the meaning of creation itself. According to Christian doctrine the essence of creation consists in making something out of nothing. On this principle Aquinas for example contrasts creation with generation or procreation and with artistic production. In biological generation the offspring is produced out of the substance of its progenitors. In artistic production some pre-existent material is transformed by the craftsman. But according to the theologian creation is not change for change means that the same thing should be different now from what it was previously.

In becoming or alteration some being is presupposed. Creation is more perfect and more excellent than generation and alteration. Aquinas says because the term *u hereto* is the whole substance of the thing whereas what is understood as the term *wherefrom* is absolutely non-being which as he remarks is the same as *nothing*. Since the distance between total non-being and being is infinite only an infinite power can create or make something out of nothing.

Lucretius flatly denies this possibility when he asserts as a first principle that nothing can be produced from nothing. Not even the gods can violate this principle. Nothing he declares is ever gotten out of nothing by divine power. To Locke on the other hand the inconceivability of creation constitutes no argument against it. Writers like Lucretius must give up their great maxim *Ex nihilo nihil fit*.

It is not reasonable to deny the power of an infinite Being because we cannot comprehend its operations. We do not deny other effects upon this ground. Locke continues because we cannot possibly conceive the manner of their production. It is an overvaluing ourselves to reduce all to the narrow measure of our capacities and to conclude all things impossible to be done whose manner of doing exceeds our comprehension.

But may not the world be related to a supreme cause or principle in some way which does not involve *ex nihilo*? The great books present various alternatives. Aristotle's prime mover is the unmoved and eternal cause of the world's eternal motion not of its coming into being or its conservation in being. Plato's demiurge is a divinity which according to the myth of the world's origin in the *Timaeus* fashions the universe after the model of the eternal ideas, artistically producing their sensible replicas in the matter or space which is called the receptacle.

The emanation of the sensible as well as the intelligible world from the transcendent. All. One in the cosmogony of Plotinus or the production of finite things from the infinite substance of God in Spinoza's theory seem to be more like generation or procreation than like creation in the meaning of the opening chapter of Genesis.

Such theories according to theologians like Augustine and Aquinas or philosophers like Berkeley and Locke deny what is meant by creation in the Judæo-Christian tradition. To Berkeley they are all equally forms of atheism. Yet it should be remarked that to Spinoza a theory like that of Plato is also impious for it places something outside of God which is independent of Him to which He looks while He is at work as to a model or at which He aims as if at a certain mark. This is indeed nothing else than to subject God to fate the most absurd thing which can be affirmed of Him whom we have shown to be the first and only free cause of the essence of all things as well as of their existence.

THE VARIOUS THEORIES OF the world's origin usually extend also to the problem of the world's end. Aristotle for example who denies a beginning to the motions of the heavens and all other cycles of natural change affirms them to go on in everlasting perpetuity. But it is not merely those who think the world has no beginning or source who attribute endless endurance to it. If the world did not have endless duration it would not be for Plato the moving image of eternity. And though they conceive the world as somehow a divine emanation or production Plotinus and Spinoza no less than Aristotle hold it to be everlasting if not eternal. We hold that the ordered universe in its material mass Plotinus writes has existed for ever and will for ever endure.

The proposition that nothing is ever reduced to nothing is for Lucretius as true as the principle that nothing ever comes from nothing. He applies these principles however only to the eternal atoms uncreated and indestructible not to the world after world which arises and perishes as the atoms come together and disappear. It is any compound body which atoms form can be dissolved into its simple bodies so whole worlds are subject to similar dissolution and will suffer it in the course of long ages. Yet though world succeeds world in the ceaseless activity of the eternal atoms Lucretius contemplates a universe without beginning or end.

Since annihilation (or reduction to nothingness) is the opposite of exhalation (or creation out of nothing) it might be expected that the

doctrine which rests on the faith that in the beginning God created heaven and earth would also foresee an end to all things—a return of the whole created universe to the nothingness from which it came. Sacred Scripture does contain the prophecy of a final cataclysm. The earth shall reel to and fro like a drunkard and shall be removed like a cottage says Isaiah. Reciting the parable of the tares in the field Matthew explains that as the tares are gathered and burned in the fire so shall it be in the end of this world. In the Gospel according to Luke Christ foretells His second coming.

And there shall be signs in the sun and in the moon and in the stars and upon the earth distress of nations with perplexity the sea and the waves roaring.

Men's hearts fail them for fear and for looking after these things which are coming on the earth for the powers of heaven shall be shaken.

And then shall they see the Son of man coming in a cloud with great power and great glory.

Heaven and earth shall pass away but my word shall not pass away.

But there is one other text which exercises a controlling influence on the theologian's interpretation of Scripture. In the second Epistle of Peter we find

the day of the Lord will come as a thief in the night in the which the heavens shall pass away with a great noise and the elements shall melt with fervent heat the earth also and the works that are therein shall be burned up.

Nevertheless according to his promise look for new heavens and a new earth where in dwelleth righteousness.

The final conflagration will be the end of the world as we know it but it will bring about the reformation not the annihilation of the material universe. As God has the power to create so according to Aquinas He has the power to annihilate but since the power and goodness of God are rather manifested by the conservation of things in being we must conclude by denying absolutely that anything at all will be annihilated. In the concluding treatises of the *Summa Theologica*—dealing with the end of the world the Last Judgment and the resurrection of the body—the final cataclysm is described as the cleansing of the world by fire to bring into being a new earth and a new heaven.

In our time men talk of the end of the world as an event which might by chance occur.

chain reaction set up by atomic fission got out of control and exploded the whole material universe. The physicist's theory of entropy also forecasts the eventual dissipation of energy to the point at which the universe will be a frozen mass of inert matter. These are secular alterna-

tives to the religious prophecy of the world's end. But what Jesus said of the Last Judgment—that its time is a secret hidden from men—may be applicable to any termination of the world certainly if it lies in the hands of God, and not merely at the disposal of man or nature.

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## REFERENCES

To find the passages cited use the numbers in heavy type which are the volume and page numbers of the passages referred to. For example in 4 HOOPER *Iliad* BK II [265-83] 12d the number 4 is the number of the volume in the set; the number 12d indicates that the passage is in section d of page 12.

**PAGE SECTIONS.** When the text is printed in one column the letters a and b refer to the upper and lower halves of the page. For example in 53 JAMES *Psychology* 116a 119b the passage begins in the upper half of page 116 and ends in the lower half of page 119. When the text is printed in two columns the letters a and b refer to the upper and lower halves of the left hand side of the page; the letters c and d to the upper and lower halves of the right hand side of the page. For example in 7 PLATO *Symposium* 163b 164c the passage begins in the lower half of the left hand side of page 163 and ends in the upper half of the right hand side of page 164.

**AUTHOR'S DIVISIONS.** One or more of the main divisions of a work (such as PART BK CH) are sometimes included in the reference line numbers in brackets are given in certain cases e.g. *Iliad* BK II [265-283] 12d.

**BIBLICAL REFERENCES.** The references are to book chapter and verse. When the King James and Douay versions differ in title of books or in the numbering of chapters or verses the King James version is cited first and the Douay and cited by a (D) follows e.g. OLD TESTAMENT *Nehemiah* 7:45—(D) *II Esdras* 7:46.

**SYMBOLS.** The abbreviation esp calls the reader's attention to one or more especially relevant parts of a whole reference; passm signifies that the topic is discussed intermittently rather than continuously in the work or passage cited.

For additional information concerning the style of the references see the Explanation of Reference Style for general guidance in the use of *The Great Ideas* consult the Preface.

## Diverse conceptions of the universe

The universe as a living organism; the doctrine of the world soul.

7 PLATO *Phaedrus* 124b d / *Timaeus* 447d  
450c / *Statesman* 586 590a / *Politeia* 618b  
619d / *Laws* K K 757d 765

8 ARISTOTLE *Physics* K VII 112 [52<sup>b</sup> 17 8]  
336c d [253 6-2] 337a b / *Heaven* BK II  
CH I [84 7 35] 376a / *Soul* BK II 5  
[41 6-3] 641a b

12 EUCLID *Timaeus* BK CH 14 120d 121a

12 AURELIUS *Metaphysics* BK V ECT 29 266  
32c 4 267 b SECT 46 267 BK V S CT 8  
269d 270b S CT 3 273a BK I S T 38  
277 d K S T 9-1 280b BK IX  
CT 8 292b K ECT 6-7 297a c K X  
ET 29-3 310a b

13 VIRIL *De Mundo* K V [74 734] 230b 231

16 K PLER *Epitome* K IV 853b 856a / *Historia*  
*metaphysica* BK II 1030a 1083 1084b

17 PLOTINUS *Symposium* d TR CH 436d 37b  
TR I 40a 42a K CH 13 46 47b K 6-28  
48b 50a TR IX 65d 77d P SM / *The Enneads*  
n d TR II 4 79d 80a K I 6 90c  
91c TR VI 1129 135 P SM / *Fides* d  
TR III CT I 141 149b P SM TR I K  
6-16 161b 165b 2 7 168d 172a CH 29-

45 173b 183a PASHAM TR VIII CH 2 201c

202a TR VIII C 7 TR IX CH I 204b 205c /  
*Fifth Ennead* TR C 208d 209a TR II  
CH 215 c TR X CH 3 247b d CH 13 14  
251a d / *Sixth Ennead* d TR V CH 12 310b d

18 AUGUSTINE *City of God* BK IV CH II 13

194 196b BK VI CH 5 6 247b 248b C I 9  
249d 250 CH 13 251 252a CH 23 256b  
257b BK X CH 29 317d K VII CH 16 367c

19 AQUINAS *Summa Theologiae* PART I Q 3 A  
8 ANS 19d 20 Q 47 A 1 ANS 256a 257b  
Q 90 A 1 ANS 480d 481d

23 HOBBES *Leviathan* PART I 162b

28 GILBERT LADSON K V 104b 105d

34 NIVON *Philosophy* K I GENERAL SCHOL  
370a / *Optics* BK II 542b 543a

40 GIBSON *Doctrine of the Fall* 307b c 767c [n 18]

42 KANT *Judgment* 365d

48 MELVILLE *Moby-Dick* 115b 117a

51 TOLSTOY *War and Peace* BK XIV 608a b

53 JAMES *Psychology* 658b 659a

1b The universe as a machine; the system of the motions

12 LUTHER *Notes on the Epistle to the Galatians* K I [18 448]

6b K I [62-3 7] 15d 19a

12 AURELIUS *Metaphysics* BK X ECT 6 297 b

17 PLOTINUS *The Enneads* d TR I 112 3 78d 79c

(1) *verse conceptions of the universe* 1b *The universe as a machine the system of its motions* (p. 15)

23 HOBBS *Leviathan* PART III 172b PART IV 269d

30 BACON *No um Organum* BK I APH 66 114d 115

31 DESCARTES *Discourse* PART V 54d 56a / *Meditations* IV 90a b / *Objections and Replies* 215a b

31 S PINOZA *Ethics* ART II AXIO I I LEMMA 7 SCHOL 378c 380b

34 NEWTON *Principles* 1a 2a BK III 269a 372a / *Optics* BK III 540a 542a

35 LOCKE *Human Understanding* BK IV CH VI 3 CT II 334b 335b

35 H L *Human Understanding* SECT VII DIV 56 475a ■ SPOT VIII DIV 78 485c 486a

37 FIELDING *Tom Jones* 79c

38 MONTESQUIEU *Spirit of Laws* BK I 1b

42 KANT *Judgment* 558b 559d 561c 562a c 562d 564a 568c 570b

45 FOURIER *Theory of Heat* 169a b

53 JAMES *Psychology* 5a 882a 884b 889b 890a

1c *The universe as an ordered community of beings divine and eternal law and divine government*

7 PLATO *Critias* 479c

8 ARISTOTLE *Metaphysics* BK I CH I 2 445a d / *Metaphysics* BK VI 598a 606d esp CH 10 [1075 12 24] 605d 606a

9 ARISTOTLE *Politics* K VII H 4 [1326-29 32] 530b-c

12 EPICURUS *Discourses* BK I CH 14 154b c BK III C I 22 195 b CH 24 204a d BK V C I 7 233a b

12 AURILIUS *Meditations* BK I SECT 4 57b BK V SECT 27 266a K V SECT 8 269d 270b BK VI SECT 27 274b c

17 PLOTINUS *Enneads* TR III CH 7 44 45a / *Third Ennead* TR I 1 82c 97b passim / *Fourth Ennead* TR III CH 13 149b d TR V C I 10 163a c

18 AUGUSTINE *City of God* K V CH I 216c d BK VI CH 6 268d 269c BK IX H 22 296d 297a BK XI CH 16-18 331a 332a CH 22 333d 334c C I 2 339a b BK XII CH 4-5 344b 345b BK XIX C I 3 517b 520a K XXI C II 24 609a 612a

19 AQUINAS *Summa Theologiae* PART I Q 2 A 3 12 14a Q II A 3 549 C Q 9 A 5 REP 2 112d 113c Q 21 1 3 124b 125b Q 2 127c 132b Q 26 4 ANS 151c 152a c Q 41 A 3 240b 241a Q 47 3 258c 259a Q 48 A RE 5 259b-260c Q 6 AA 3 4 316a 317c Q 65 A 2 ANS 340b 341b A 3 RE 1 341c 342b ■ 3 A I ANS and REP 1 370 371a QQ 103 119 528a 608d ART I II Q 17 A 8 REP 2 692a-c

20 AQUINAS *Summa Theologiae* PART II Q 91 A 1 208b d Q 93 215b d 220d

21 DANTE *Divine Comedy* HELL VII [61-9] 10b c PARADISE I [97 14] 107b d II [112 148] 109a b VIII [91 114] 117d 118a x [13 38] 190b c XII [52 81] 126 II XXVII [103 1] 148b c XXVIII 148d 150b XXIX [13 48] 150b d

22 CHAUCER *Troilus and Cressida* BK III STA I 1 754b 55b STAN A 250- 337a b / *Knight's Tale* [287-3016] 209a b

27 SHAKESPEARE *Troilus and Cressida* ACT I SC III [75 139] 108d 109c

28 HARVEY *On Animal Generation* 491d 49 a

30 BACON *Advancement of Learning* 71a b

31 DESCARTES *Meditations* VI 99c

31 S PINOZA *Ethics* PART I APPENDIX 369b-372d

32 MILTON *Paradise Lost* BK V [168-50] 185b-186a

35 LOCKE *Human Understanding* BK III CH VI 3 CT II 12 271d 272b BK IV CH XVI SECT 12 370c 371a

35 BE KELEY *Human Knowledge* SECT 29-33 418c 419a passim SECT 10 109 433b-434b passim

38 MONTESQUIEU *Spirit of Laws* BK I 1a b

40 GIBSON *Decline and Fall* 346c 347a

42 KANT *Pure Reason* 200c 209d 239a 240b / *Judgment* 578a 587a p m 591d [fn 1]

47 GOETHE *Faust* PROLOGUE [243 270] 7a b

51 TO STOY *War and Peace* BK V 216d 218b esp 217c

2 *The universe and man in microcosm and macrocosm*

7 PLATO *Phaedrus* 124b 126c / *Timaeus* 447b-453c 466a b / *Philosophy* 618c 619c

12 LUCRETIUS *Nature of Things* BK VI [647-652] 89a

12 EPICURUS *Discourses* BK II CH 5 143d 144a BK II CH 13 188b 189 BK IV CH 7 232c 235a

12 AURILIUS *Meditations* BK IV SECT 4 264a SECT 2, 266a

16 HELLER *Epitome* BK IV 849b 873b 915b 916a / *Harmonies of the World* 1080a b

19 AQUINAS *Summa Theologiae* PART I Q 91 A 1 ANS 484a 485b PART I II Q 17 A 8 REP 2 692a c

21 DANTE *Divine Comedy* PARADISE I [97 147] 107b d II [112 148] 109a b

24 RABELAIS *Gargantua and Pantagruel* BK I 137c 139b

25 MONTGOMERY *Essays* 213d 215 259a d

26 SHAKESPEARE *Richard II* ACT V SC V [4] 349d 350a / *As You Like It* ACT II SC V [36 166] 608c 609a

27 SHAKESPEARE *Hamlet* CT II SC II [303 322] 43d / *King Lear* ACT I SC II 262d 263d / *Tempus* ACT V C I [146-158] 543b

29 CERVANTES *Don Quixote* PART II 237c

- 30 BACON *Advancement of Learning* 33d 34b  
50c d / *Novum Organum* BK I APH I 4 133c d
- 31 SPI OZA *Ethics* PART II PROP I 13 373d 378c
- 32 MILTON *Paradise Lost* BK VIII [66-178] 233b 2 6a
- 33 PAS AL PE SÈS 2 181a 184b 347 348 233b 234a
- 35 LOCKE *Human Understanding* BK II CH II 5 CT 2 128a b
- 36 KANT *Practical Reason* 360d 361d / *Judgement* 497a-498b 591b 592d
- 46 HEGEL *Philosophy of History* INTRO 156d 190b esp 156d 162a 165a b PART I 220c 221a
- 47 GOETHE *Faust* esp PROLOGUE [280-292] 8a PART I [354-5] 11a 13a [1786-1802] 42b-43b PART II [36, 9-4] 2 116b 117b
- 48 MELVILLE *Moby Dick* 78a b 120a 121a 168a b 204a 209b 231a 318a 347b 353b-354b 360b-361
- 51 TOLSTOY *War and Peace* BK V 216d 218b
- 52 DOSTOEVSKY *Brothers Karamazov* BK VI 168b c
- 53 JAMES *Psychology* 655a 659a esp 655b-656b 658b 659a
- 54 FREUD *General Introduction* 562c d
- 3 The universe and God divine immutability and transcendence
- 3a The unity of God and the world the distinction between *natura naturans* and *natura naturata*
- OLD TESTAMENT *Jeremiah* h 23 24—(D) *Jeremiah* 23 24
- ΑΠΟΚΡΥΦΑ *Wisdom of Solomon* 7 12 —(D)
- OT *Book of Wisdom* 17 12 1
- NW TESTAMENT *Ephesians* 4 6
- 12 FICHTERUS *Disco rse* BK I CH 4 120d 121c
- 12 AURELIUS *Meditations* BK II SECT 9 280b-c
- 17 PLOTINUS *Second Ennead* TR IX II 6 75c 76 / *Third Ennead* TR VI 1 129a 136a / *Fifth Ennead* TR IX 205a 20 ac / *Fifth Ennead* TR II CH 2 208 209b TR II 214c 215c TR II C I 15-17 224c 226c TR VI 1 7 242d 243 CH 9 243d 244
- 18 AUGUSTINE *Confessions* BK PAR 2 3 1b 2 BK I PR 10 15b d pa 8 18b BK IV PAR 26 25c d PAR 3 26c 27a K VI PR 4 36a b BK II PAR 7 43b 45d PAR 10-13 48 50 esp PAR 21 49d 50a BK X PA 8 10 73b-74c 100d 101a / *City of God* K V CH 12 13 195d 196b K VII CH 6 248a B CH 30 261b d BK XI C 25 358b 359a / *Christ a Doct me* K CH 12 627 d
- 20 AQUINAS *Summa Theologiae* PART I Q 3 8 19d 20c Q 4 3 22b 23b Q 6 A 4 30b d 8 34 38c Q 5 A 3 REF 3 277a 278 Q 9 A 1 ANS 480d-481d PART II Q 17 A 1 REF 2 69 ac
- 21 DANTE *The Comedy* PARADISE XXXIII [82 105] 157a B
- 23 HOBBS *Leviathan* ART II 162b
- 28 HUME *On Animal Generation* 428c d
- 31 DESCARTES *Mediations* VI 99c
- 31 SPI OZA *Ethics* BK I 355a 3/2d esp DEF 3 6 355b AXIO I 1 7 355 d REP 1 8 355d 357d PROP 14 16 359d 62a PROP 18 363c PROP 23 365b PRO 29 30 366b d PART II PROP 1 II 373d 37 c esp PROP / COROL 2nd c OL 375a B PART IV PROP 4 425b d
- 32 MILTON *Paradise Lost* BK VI [334 346] 306b
- 34 NEWTON *Principles* K III GENERAL SCHOL 370a 371a
- 35 LOCKE *Human Understanding* K I CH XIII SECT 19 152 c CH XV SECT 2 4 162c 16 b
- 35 RUSSELY *Human Knowledge* 5 CT 149-150 442d 443b SECT 155 444b c
- 42 KANT *Practical Reason* 334b 335b / *Judgement* 565c d 566c d 580 d
- 46 HEGEL *Philosophy of History* INTRO 156d 157b 176b-c PART I 220 221a 224a b 227c 228a
- 47 GOETHE *Faust* PART I [447 453] 13
- 48 MELVILLE *Moby Dick* 115b 117a
- 51 TOLSTOY *War and Peace* BK V 216d 218b BK XIV 608 b BK XV 631a c
- 52 DOSTOEVSKY *Brothers Karamazov* BK VI 153b-d
- 3b The duality of God and the world the distinction between Creator and creature
- OLD TESTAMENT *Psalms* 97 9—(D) *Psalms* 96 9 NW TESTAMENT *1 John* 5 7
- 9 ARISTOTLE *Motion of Animals* CH 3 [6] 9 1-CH 4 [700 5] 234 235a
- 11 LUDWIG *Nature of Things* BK I [146-158] 25c 2 BK I [167 183] 17a b [109-104] 29 BK [76-90] 62a b [46-194] 63 c BK VI [43 71] 80d 81b
- 18 AUGUSTINE *Confessions* BK I PAR 2 3 1b 2a BK I PA 10 15b d BK IV PAR 26 25c d BK V PAR 4 36a b BK VII PAR 4 7 44b 45d PA 16 23 48c 50c esp PAR 17 49a p 21 49d 50a K X PAR 8 10 73b-74a BK XII PA 7 100d 101a PAR 2 103d 104a / *City of God* BK VII CH 29 261 b BK XII CH 7 353a 354a
- 19 AQUINAS *Summa Theologiae* PART I Q 3 A 8 19d 20c Q 8 A 1 ANS 428c 13 34d 35c A 3 36b 37c Q 18 A 4 107d 108c Q 41 A 2 238b 240a Q 6 3 RE 2 316a d Q 9 A 1 ANS 480d-481d Q 103 A 2 529a 530a Q 05 A 5 542a 543b PART II Q 17 A 8 REF 2 692a c
- 21 DANTE *The Comedy* PARADISE I [97 42] 107b-d I [112 148] 109 B X II [52-66] 120a XIX [40-66] 135c d XXVIII 148d 150b XXIX [127 145] 151c d
- 22 CHOCOLAT *His Tale* [2987 3040] 209a 210a



- (3) *The universe and God's immutability and transcendence* 3b *The duality of God and the world: the distinction between Creator and creature*
- 23 HOBBS *Leviathan* PART II 162b  
 30 BACON *Advancement of Learning* 17c  
 31 DESCARTES *Discourse* PART V 54d 56a / *Meditations* VI 99c / *Objections and Replies* 110b 112a 123c d 158b 159a  
 35 LOCKE *Human Understanding* BK III CH VI SECT II 12 271b 272b  
 38 MONTAIGNE *Spit of Laus* BK I 1a b  
 42 KANT *Pure Reason* 190a 192c d / *Practical Reason* 334b 335b / *Judgement* 566c d 580c d  
 46 HEGEL *Philosophy of History* PART I 245d 246c
- 4 The origin of the world cosmos out of chaos  
 5 ARISTOTLES *Bird* [68, 93] 551b-c  
 7 PLATO *Timaeus* 458a b  
 8 ARISTOTLE *Metaphysics* BK XII CH 6 [1073b 27 1074 3] 601c 602a  
 12 LUCRETIVUS *Nature of Things* BK V [416-448] 66c d  
 18 AUGUSTINE *Confessions* BK XII par 45 123a  
 31 DESCARTES *Discourse* PART V 54d 56a  
 32 MILTON *Paradise Lost* K I [6-10] 93b BK II [530-1009] 129b 133a BK II [-55] 135b-136b K V [577-599] 187b 188a  
 40 GIBSON *Decline and Fall* 307b  
 47 GOETHE *Faust* PART II [785-7950] 191b 193b
- 4a The denial of ultimate origins: the eternity of the world and its motion without beginning or end  
 7 PLATO *Timaeus* 447b c  
 8 ARISTOTLE *Topics* BK I CH II [104<sup>b</sup> 13 8] 148 b / *Physics* BK V II C I 334a 337b c 18-9 348b 353b / *Metaphysics* BK I 13 [27 b 1 24] 361c 362a BK I 9 [279] BK II 1 [284<sup>b</sup> 6] 370b 376a K II CH 6 379c 380c / *Generation and Corruption* BK II C I 0-1 437d-441a c / *Meteorology* BK I C 14 [35 16-353 27] 458b 459a c BK I CH 3 [356<sup>b</sup> 35 3] 461b-d / *Metaphysics* BK I CH 8 [1050<sup>b</sup> 20-28] 576c d K XII CH 6-8 601b-605a  
 12 LUCRETIVUS *Nature of Things* BK I [416-214] 2d 3d [958-100] 13b K II [80-141] 16 d [294 307] 18d 19 [569-590] 22b [1048 1063] 28b c BK V [187 194] III [416-43] 66c d  
 12 AELIUS *Medicine* K V S CT 13 271b S CT 23 272b A S T 15 275a b BK IX SECT 28 293d 294 BK X S CT 7 297b c  
 16 HELEN *Epicure* BK I 846a 848b 890a 891a  
 17 PLOTINUS *Second Ennead* TR I 35a 39d TR IX CH 3 4 67b 68 CH 7-8 69c 70a / *Third Ennead* TR II 8 123d 124a
- 18 AUGUSTINE *City of God* BK XI CH 4 324 d BK XII CH 10-12 348b 350a  
 19 AQUINAS *Summa Theologiae* PART I Q 10 A 2 REP 2 41d 42c A 4 ANS 43b 44b Q 14 A 12, ANS 85d 86d Q 46 AA 1 2 250a 255a  
 20 AQUINAS *Summa Theologiae* PART III Q 10 Q 91 A 2 ANS 1017c 1020c  
 23 HOBBS *Leviathan* PART II 162b  
 31 SPINOZA *Ethics* PART I PROP 16-17 362a 363c PROP 33 367b 369a  
 35 LOCKE *Human Understanding* BK II CH XI S 26 160c d  
 42 KANT *Pure Reason* 132d 133c 135a 137a c 152a d 160b-161d
- 4b Myths or hypotheses concerning the world's origin by artistic production: the demiurge, the creative ideas, the receptacle  
 7 PLOTINUS *Timaeus* 447a 477a c / *Sophist* 517d 578b  
 9 ARISTOTLE *Parts of Animals* BK I CH I [64<sup>b</sup> 13 9] 164c d  
 12 LUCRETIVUS *Nature of Things* BK V [181 194] 63b  
 17 PLOTINUS *Second Ennead* TR V CH 3 58d 59 TR IX CH 8 70a d CH 10-12 72a 73d / *Fourth Ennead* TR III CH 10-12 147c 149b / *Fifth Ennead* TR VIII CH 7 242d 243c CH 13 245c 246 / *Sixth Ennead* TR I CH 10 302b c  
 18 AUGUSTINE *Confessions* BK VI par 7 90d 91a BK VIII par 45 123  
 31 SPINOZA *Ethics* PART I APPENDIX 370 371b  
 40 GIBSON *Decline and Fall* 307b  
 42 KANT *Pure Reason* 188c 189a
- 4c The formation of the world by a fortuitous concourse of atoms  
 8 ARISTOTLE *Physics* BK II II 4 [196<sup>a</sup> 2, 4] 272d 273a CH II [198 5 13] 275a  
 12 LUCRETIVUS *Nature of Things* BK I [10 2 1037] 13c d BK [216-250] 17d 18b [1048 1 63] 28b c BK V [184 94] 63c [476-5 8] 66c 67c  
 12 AELIUS *Meditations* S BK X SECT 6 297a  
 13 AELIUS *Eclogues* VI [20-4] 19d 20a  
 17 PLOTINUS *Third Ennead* TR I CH 3 79b-c  
 19 AQUINAS *Summa Theologiae* PART I Q 15 A N 91b 92 Q 22 A 2 ANS 128d 130d Q 47 A 1 V 256a 257b  
 34 NEWTON *Optics* K II 542a b
- 4d The emanation of the world from the One  
 17 PLOTINUS *First Ennead* TR VII C I 2 26 d / *Second Ennead* TR I CH 5 37b-c T I CH II 12 46b c II 6-18 48b 50a TR I CH 3 4 67b 68 CH 8 69c 70d / *Third Ennead* T I 3 82c CH II 16 90c 91c T III CH I 93b c TR II C II 12 126 127d TR II 129 136a c IM TR I 3 137b c / *Fourth Ennead* TR I C I 2 140d 141 TR IV CH 10 163a c C I 13 164d 165b C I 31 39

174d 180a CH 45 182b 183a / *Fifth Ennead*  
 TR I CH 4-9 209d 213c TR III CH 10-12 221b  
 223c TR IV 226d 228b TR VIII CH 7 242d  
 243c / *Sixth Ennead* TR II CH 21 279b 280a  
 TR IV CH 2 297d 298c CH 4-5 299 300a TR  
 V 305c 310d TR VII CH I 2 321b-323a CH 16  
 330a-c

#### 4e The creation of the world *ex nihilo*

- 12 LUCRETIUS *Na u e of Things* BK I [136-214]  
 2d 3d
- 18 AUGUSTINE *Co f fusions* BK V par 9 73c d  
 BK XI par 6-16 90c 93b BK XII VIII 99b-  
 125 c
- 19 AQUINAS *Summa Theol oga* E RT I Q 21 A  
 4 REP 4 126c 127 QQ 41 46 238a 255d Q  
 50 A I ANS 269b-270a A 3 AN 272a 273b  
 QQ 65-66 339a 349d E 104 534c 538c P RT  
 I-II E 7 A 8 RE 2 692a-c
- 21 DANTE *Divine Comedy* PARADISE VII [21-  
 148] 116b-c x [1-6] 120b x x [40-66] 135 d  
 XXIX [13 48] 150b-d
- 23 HO BES *Leviathan* PART II 162b PART III  
 188d
- 30 BACON *Advancement of Learning* 17b d
- 31 D SCARTES *Discourse* PART V 54d 56a /  
*M ediat ions* IV 90a b / *Object ions and Repl es*  
 P III 132d 133a esp COROL 133a 137d  
 138a 140b-c 229 d
- 31 SPIROZA *Esh et PART I* PROP 17 SCHOL 362c  
 363 APP 4DIT 370c 372d passim
- 32 M TON P *aduse Lost* K I [6-10] 93b BK III  
 [708-735] 150b-151b BK IV [720-735] 168a b  
 E V [468 4,9] 185b BK VII [59-640] 218b  
 231a esp [139-161] 220a b
- 33 P SCAL *Pensees* 48a 258a
- 34 NEWTON *Optics* BK III 541b 542a 543a
- 35 LOCK *Human Understa d g* BK IV C X  
 SECT 15 352d 353a SECT 18-19 353c 354c
- 35 B AK LEY *Human Knowledge* c 9t 431a
- 35 HUM *Hum n Understa d g* s CT XII DIV  
 132 509d [in i]
- 36 MONT SQ TEU *Spirit of Laws* BK I 1a b
- 42 LANT *Pu e Reus n* 132d 133 135a 137a c  
 152a d 160b-161d / *Pr etical Reason* 334b-  
 335b / *Judgement* 594d [in i]
- 46 HEGEL *Phil sophy of History* PART I 245d  
 246a P RT IV 361a
- 49 DARWIN *Orig n of Species* 239c-d
- 54 F EUD *New I ntroductory Lectu es* 875d  
 876a 877d

#### 4 (1) The distinction between creat ion and motion gen at on and art st c produc t on

- 18 AUGUSTINE *Confessio s* K X par 7 90d 91a  
 / *City f God* K XI CH I 327d
- 19 AQL NAS *Summ The logica* PART I Q 14  
 8 A 82c 83b Q 19 A 4 111c 112 Q 22 2  
 A s and RE 3 128d 130d E 27 A I 153b-  
 154b A 2 R P 3 154c 155b Q 44 2 239b-  
 240 E 45 241d 250 Q 66 A 343d 345c

Q 75 A 6 REP 2 383c 384c Q 104 A I 534c  
 536c Q 110 A 2 ANS 565d 566d

23 HO ES *Leviatha* INTRO 47a

35 LOCK *Huma Understanding* BK II CH XXVI  
 SECT 217b d

4 K NT *Pu e Reason* 81d 82a 188c 189a

#### 4e(2) The problem of time and ete nity in rela tion to creation the conservation of cre t res ist nce

- Apocrypha *Wisdom of Solomon* 7 17 18-(D)  
 OT *Pook of Wisdom* 7 17 18
- 17 PLOTINUS *Thi d E nead* TR I CH II 126a d
- 18 AUGUSTINE *Confessio ns* BK VI par 7 45c  
 par 2 49d 50 BK XI pa 10- 7 91d 93c  
 par 40-41 98d 99b BK XII par 4 109b-110  
 / *City of God* BK XI CH 4 7 324 326c BK  
 XII CI 12 349b 350 C 115 17 351b 354a
- 19 AQUINAS *Summ Theologica* PART I Q 8 A I  
 ANS 34d 35c Q 9 A 2 ANS 39c-40d Q 14 A III  
 ANS 85d 86d E 46 250a 255d Q 61 A 315c  
 316a Q 66 A 4 348d 349d E 75 A 6 REP 2  
 383c 384c Q 04 A I ESP R P 4 534 536c AA  
 3 4 537b 538
- 21 D NT *Divin Comedy* PAR. DIS XXIX [13  
 45] 150b d
- 30 B CON *Advancement of Learning* 17c
- 31 D SCARTES *D ico n* PA T V 55d 56a /  
*M edit ions* III 87b d / *Ob ject ions a d Repl es*  
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- 32 MILT V *Parad se Lost* K V [5 7-594] 187b  
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- 35 LO KE *Huma U derstand g* BK II CH XIV  
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13 10 / *Wisdom of Solomon* I 14 6 7 7 15 21  
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18 AUGUSTINE *De Confess onis* BK VII par 7 45a d  
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19 AQUINAS *Sum Ia Theol gica* PART I Q  
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20 AQUINAS *S mma Theologica* PART III Q 3  
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21 DANT *Divine Comedy* PARADISE VII [121  
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30 BACON *Advancement of Lear* 17b d /  
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7 PLATO *Tim eus* 448a b 459b-c / *Sis sman*  
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8 A ISTOTL *Phys c* BK II CH 4 [2 3<sup>b</sup> 5 6]  
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12 LUC *vs Nature fThi gr* XI [1023 1174]  
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18 AUGUSTINE *City of God* BK XI CH 5 324d  
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19 AQUINAS *Summa Theologica* PART I Q 2,  
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31 D SCARTES *Discou se* PART V 54d 56a /  
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31 S INOZA *Ethics* PART I PROP 33 367b 369a

32 MILTON *Parad se Lost* BK II [910-9 0] 131a

34 NE VTON *Opt cs* BK III 543a

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7 PLATO *Phaedo* 247b 250a / *Timaeus* 448a  
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8 ARI TOTLE *Heavens* BK I CH 2 359d 360d  
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9 ARISTOTLE *Parts of Animals* BK I CH 5  
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12 LUCRETIVUS *Nature of Things* BK I [418 448]  
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16 PROLE IV *Almagest* BK I 5a 6a 8b 9a 11b  
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16 COPERNICUS *Revolutions of the Heavenly*  
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16 KEPLER *Epit me* BK IV 853b 857b 888b-  
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17 PLOTINUS *Second Ennead* TR I 35a 39d TR  
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19 AQUINAS *Summa Theologica* PART I Q 10  
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- 34 NEWTON *Principles* BK III RULE III 270b-271a PROP 7 281b 282b
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- 7 PLATO *Timaeus* 447a-455c
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- 31 SPINOZA *Ethics* RTI APPENDIX 372 d
- 32 M LTON *P d c Lost* BK IV [6 0-633] 165b-166a BK V [468-505] 185b-186a
- 35 LOCKE *Human Understanding* BK I I H VI SE T I 12 271b 272b BK IV CH XVI SECT 12 370c 371a
- 42 KANT *Pure Reason* 187c 188c
- 53 JAM S *Psychology* 671b [fn 1]
- 6c The rationality or intelligibility of the universe
- 7 PLATO *Phaedrus* 124b-d / *Phaedo* 240b-243c / *Timaeus* 447a 477 c / *Sophist* 567a 569a / *Philebus* 618b 619d / *Lysis* BK I 75 d 765c BK VII 797d 798a
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- 9 ARISTOTLE *Politics* K VII CH 4 [1326 29-33] 530b-c
- 12 AURILIUS *Meditat ons* BK IV SECT 4 264a SECT 27 29 266a SECT 40 267a b SECT 45 46 267b e BK V SECT 8 269d 270b SECT 3 273a BK VI SECT 1 274a SECT 10 274b-c SECT 36 277c SECT 38 277c d SECT 4 277d SECT 58 279d BK VII SECT 9-11 280b-c SECT 25 281c SECT 75 285 BK VIII SECT 7 286a SECT 34 288a b BK IX SECT 11 292b BK X SECT 6-7 297a c BK XII SECT 5 307d 308a SECT 30 310a b
- 10 K E L R *Epitome* BK IV 863b 872b / *Harmonies of the World* 1023b 1080b
- 17 PLOTINUS *Third Ennead* d TR VIII CH I-5 129a 131d / *Fifth Ennead* TR IV CH 8-14 249c 251d
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- 46 H E L Philo phy f Right PREF 6a 7a / *Philo phy of History* INTRO 156d 158c 160b PART V 361a
- 53 JA *Psychology* 5 672a 862b 863b [fn 2] 870b 873a b 882a 886a 889 890a
- 6d The goodness and beauty of the universe
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- 7 PLATO *Phaedrus* 247b 250a / *Timaeus* 447a 477a c esp 447a-448a / *Statesman* 586c 590a

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- 11 NICO MACHUS *Arithmetic* BK II 839d 840b
- 12 LUCRETIUS *Nature of Things* BK II [167 183] 17a II BK V [195-234] 63c 64a
- 17 EPICTATUS *Discourses* BK IV CH 7 233a II
- 18 AURELIUS *Meditations* BK III SECT 2 259d 260a
- 16 PROBLEMY *Almagest* BK I 5a
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- 17 PLOVUS *Secundum Ennead* TR III CH 16 48b-49 CH 18 49c 50a TR IV CH 16 57b-c TR IV 65d 77d passim / *Third Ennead* TR II CH 3 83d 84c c 1 8 86c d CH 10-14 88a 89d / *Fifth Ennead* TR VII CH 8-9 243c 244c c 1 12 13 245c 246c
- 18 AUGUSTINE *Confessions* BK VII par 16-23 48c 50c BK X par II 10 73b-74a / *City of God* BK V CH II 216c d BK VIII CH 6 268d 269c BK X CH 14 307c 308a BK XI CH 4 324a b CH 16-18 331a 332a CH 22 23 333d 335c BK XII CH 2 343c d CH 4-5 344b 345b BK XIV c 1 1 13 517b 520a BK XVII CH 24 609a 612a / *Christian Doctrine* BK I CH 4 625b-c
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- 20 AQUINAS *Summa Theologica* PART II SL I, Q 74 A 1 925c 926c Q 91 1016a 1025b
- 21 DIDEROT *Discours* BK I DISC I [97 142] 107b d II [112 148] 109a b VIII [91 114] 117d 118a X [1 36] 120b-c XIII [32-81]

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- 22 CHAUCER *Troilus and Cressida* BK III STA 2A I 7 54b 55b STANZA 250-253 87a II
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- 31 SPINOZA *Ethics* PART I PROP 33 367b-369 APPENDIX 369b 372d passim PART III 395a d PART IV PREF 422b d-424a
- 32 MILTON *Paradise Lost* BK VII [548-564] 229a b
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- 35 BERKELEY *Human Knowledge* SECT 109 434b SECT 146 442a II SECT 151 154 443b-444b
- 35 HUIE *Human Understandings* SECT VIII DIV 79 486b-c SECT XI DIV 106-107 499c 500a pass m
- 37 FIELDING *Tom Jones* 186c d 187d 188a
- 40 GIBSON *Decline and Fall* 81b-c
- 42 HANT *Pure Reason* 187c 188c / *Judgement* 544c 546d
- 47 GOETHE *Faust* PROLOGUE [243 70] 7a b PART II [11 288 303] 274b 275a
- 48 MELVILLE *Moby Dick* 144a 145a
- 52 DOSTOEVSKY *Brothers Karamazov* BK VI 153b d
- 54 FREUD *New Introductory Lectures* 878a b

7 *The space of the world astronomical theories concerning the size of extent of the universe*

- OLD TESTAMENT Job 38 18 20 / *Proverbs* 25 3
- 7 P LATO *Timaeus* 448d 449a
- 8 ARISTOTLE *Physics* BK IV CH 5 [112<sup>1</sup>11 21] 292a / *Metaphysics* BK I c 1 5 7 362c 367b BK II II 4 378a 379b CH 8 [290<sup>3</sup>30 11] 382a
- 11 ARCHIMEDES *Sand Reckoner* 520a 526b
- 12 LORENTZ *Nature of Things* BK I [105<sup>1</sup> 1111] 12d 14d BK II [104<sup>1</sup> 1104] 28b III BK I [643<sup>7</sup>-652] 89a
- 16 P LATO *Almagest* BK I 10b
- 16 COPERNICUS *Revolutions of the Heavenly Spheres* BK I 516a 517b
- 16 KEPLER *Epitome* BK IV 882 886b
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- 32 MILTON *Paradise Lost* BK III [66 179] 233b-236a
- 34 NEWTON *Principles* BK III PRO 42 367a
- 35 LOCKE *Human Understandings* BK I CH IV SECT 26 160c d BK IV III III SECT 24 320c d
- 42 H. T. *Pure Reason* 135 137a c 160b-161d / *Judgement* 501 b
- 54 FREUD *General Introduction* 562c

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- 9 ARISTOTLE *Motion of Animals* CH 4 [699<sup>b</sup> 12 700<sup>a</sup> 6] 234d 235a  
 12 LUCRETIUS *Nature of Things* K V [91 125] 62b d [235 415] 64a 66c BK VI [335-6 7] 87c 88b  
 16 KEPLER *Epitome* BK IV 847b 848b  
 18 AUGUSTINE *City of God* BK XVIII CH 53 504d 505c BK XX 530a 560a c  
 20 AQUINAS *Summa Theologica* PART III SUPPL Q 73 74 923b 935a c Q 77 A 2 945a 946b Q 88 A 3 1002d 1004b Q 91 1015a 1025b  
 23 HOBBS *Leviathan* PART III 230a 244b-c  
 27 SH KESSELER *Tempest* ACT IV C1 [146-158] 543b  
 32 MILTON *Christ Nat* 103 [133 7 1 4b 5b / *Paradise Lost* BK III [274 343] 141b 143a BK VII [139-161] 220 b BK XI [45-83] 300a 301a BK XII [537-551] 331a  
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 41 GIBSON *Decline and Fall* 233c

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 Other considerations of the world and man see MAN 10c 10e  
 The problem of the unity or duality of God and the world see GOD 5d-5e 11 NATURE 1b ONE AND MANY 1b RELATION 3  
 The issues concerning the world's origin its eternity and its creation see ART 2c ASTRONOMY 8c(1) CHANGE 13 FLEMING 5b ETERNITY 2 GOD 7a INFINITY 3c ONE AND MANY 1a T1 1a 2b-2c  
 The issue concerning divine freedom in relation to the necessity of this world and the possibility of other worlds see GOD 4c 5g LIBERTY 5d WILL 4b  
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 The issue concerning hierarchy or continuity in the order of nature see BEING 3a GOOD AND EVIL 1b LIFE AND DEATH 2 3a NATURE 3b  
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 Another discussion of the beauty of the world see BEAUTY 7b and for the goodness of the universe in relation to God's goodness and the problem of evil see GOD 4f 5h-5i GOOD AND EVIL 1d 2b  
 The atomistic theory of the world's growth and decay see ELEMENT 5h and for the religious dogma of the world's end and related theological doctrines see GOD 7g-7h IMMORTALITY 5g PROPHECY 4d SOUL 4d(3)

## ADDITIONAL READINGS

Listed below are works not included in *Great Books of the Western World* but relevant to the idea and topics with which this chapter deals. These works are divided into two groups.

I Works by authors represented in this collection

II Works by authors not represented in this collection

For the date, place, and other facts concerning the publication of the works cited, consult the Bibliography of Additional Readings which follows the last chapter of *The Great Ideas*.

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## APPENDICES





## APPENDIX I

### BIBLIOGRAPHY OF ADDITIONAL READINGS

The Bibliography of Additional Readings provides information concerning the authors and works cited in the Additional Readings. In addition to the full name and dates of each author, the Bibliography gives as much of the following information as appropriate to each work cited: the full title (and subtitle if any), the name of the editor or translator if these are identified in the recommended edition, the place of publication of the edition or translation recommended, the name of the publisher and the date of publication, the original title, the date and in some cases the place of composition or publication.

Since the Additional Readings are two separate lists of authors and works and the Bibliography is a single compilation of the titles which comprise these two lists, each was constructed according to different principles. The following statement of these principles serves to guide the reader in using the Bibliography in addition to the Additional Readings.

**AUTHORS' NAMES.** In the Additional Readings surnames are used, with initials added only where necessary to distinguish identical surnames, for example J. H. Newman. In a few exceptional cases full names are used because this is the more recognizable form. For example, LEONARDO DA VINCI. The common Anglicized spelling is employed for reference to foreign names.

The alphabetical order of authors' names in the Bibliography is determined by the way in which the names appear in the Additional Readings. Initials do not affect the order; for example J. H. Newman appears in the Bibliography as NEWMAN, JOHN HENRY. When full names are used in the Additional Reading, the first name determines the alphabetical location of the author in the Bibliography; for example, LEONARDO DA VINCI is listed under L, not under D, or V.

**TITLES OF WORKS.** In the Additional Readings full titles are generally used. In some cases abbreviated forms are employed to avoid undue length. All subtitles are omitted.

In the Bibliography both title and subtitle are used, and with few exceptions the title is given as it appears on the title page of the edition cited.

Titles are arranged in alphabetical order under the names of the authors. The alphabeticalization of titles disregards initial English articles (*a*, *an*, and *the*) but not preposition (*of*, *on*, etc.).

The titles of anonymous works are placed in alphabetical order among the authors' names; for example, *Arts and Manners of the Middle Ages* appears in the Bibliography between ATHANASIUS and AUGUSTIN.

The opening words of a shortened title in the Additional Readings sometimes differ from those of the full title. In these cases the short title precedes the full title in the Bibliography and is placed in brackets; for example, *First of the Vices* *First of the Virtues* appears in the Bibliography as [Virtuous Foes of the Vices] *A Course of Lectures on the Virtues of the Soul*.

The full title sometimes includes the names of a number of works of which the Additional Reading cites only one. If the opening words of the full title differ from those of the title in the Additional Readings, the latter is placed in brackets and precedes the full title in the Bibliography; for example, *Shakespeare's Crime and Punishment* appears in the Bibliography as [Crude Criminality] *Delusions of Crime and the Mind*. The alphabeticalization is determined by the bracketed title, since this is the title which appears in the Additional Reading.

**TRANSLATION.** The manner of citing titles in the Additional Reading indicates whether a foreign title is a title in English translation. If no translation is given, the title is given only in its original language. If however the work has been translated, the English title is always used, sometimes in conjunction with the original title. When two

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titles are thus given which appears first depends in large part on the wording of the title page or the back of the volume which contains the translation

Some translations carry the original title in the primary place and use the translation as a secondary title. Some translations use only the English title. In these cases where the work is well known under its original title this is added in parentheses after the English title. Some translations use only the foreign title. In these cases an English version is added in parentheses after the original title.

In the Bibliography the titles of translated works are listed alphabetically according to the way in which they are cited in the Additional Readings. If the original title is given first in the Additional Readings then only it is used in the Bibliography. If the English title is given first in the Additional Readings or if only it is used then the work is listed alphabetically in the Bibliography according to the English title. In these cases the English title is always accompanied by the original title in parentheses.

**COLLECTIONS.** In the Additional Readings the titles of essays or papers which are parts of a published collection are sometimes given within quotation marks followed by the title of the collection the latter appearing in italics for example J. H. NEWMAN *Private Judgment* in vol. II *Essays and Sketches* of MELWAIN. The Fundamental Law Behind the Constitution in *The Constitution Reconsidered*. In these cases it is the italicized title of the collection in which the essay or paper is published rather than the quoted title of the essay or paper which is listed in the Bibliography for example the essay by Melwain in the example above is represented in the Bibliography by the following entry under MELWAIN CHARLES HOWARD *The Constitution Reconsidered*.

The title of an individual essay or paper or of a single lyric poem is sometimes cited in the Additional Readings without reference to the collection in which it is published. In these cases the title is italicized not quoted. The individual work is represented in the Bibliography by this title and the bibliographical information includes the title of the collection in which it is published.

A work listed in the Additional Readings may be available only in a collection or set of volumes with a single collective title. The collective title and the number of the volume in which the cited work appears are included in the bibliographical information for example what is cited in the Additional Readings as AUGUSTINE *On the Trinity* is represented in the Bibliography by the following entry under AUGUSTINE AURELIUS SAINT BISHOP OF HIPPO *On the Trinity* In vol. II *Select Library* *Select Library* is a shortened form of the collective title of a set of volumes *A Select Library of the Nicene and Post Nicene Fathers of the Christian Church* Ed. by P. Schaff. First Series II vols.

When the full title of a collection and bibliographical information about it is given as part of the entry for a particular title subsequent listings of other parts of the same collection may refer back to the collective title by using *ibid* or *q. t.* or see above. In other cases only a shortened form of the collective title is given in the entry itself. Here the collective title in full accompanied by bibliographical information is given in a note appended to the last entry for that author.

**WHOLE AND PART CITATIONS.** In all cases in which parts of a work are recommended in the Additional Readings the citation indicates these parts in a number of ways. It usually gives author's or editor's or translator's divisions of the work such as book part chapter section etc. In the few cases where such divisions are not citable it gives page references to a particular edition. When page numbers are given it is of course necessary to use this edition to find the pages cited.

When author's or editor's divisions are used they are usually applicable to all standard editions of the work except as it was originally written in English. In the case of translation it sometimes happens that the translator has made his own divisions of the work. Where this is so the divisions indicated must be found in the particular translation specified in the Bibliography. The author's or translator's divisions are given in the same manner as similar divisions are given in the Reference sections of the 12 chapters *see also* *see* etc. followed by the number of the division in Arabic or Roman numerals according to the usage of the work cited.

Sometimes letters or numbers without part names signify subordinate divisions of the author's work for example HEGEL *The Phenomenology of Mind* IV (3). These are given precisely as they appear in the works themselves.

In a few cases the recommended part of an author's work is titled. Such titles are placed in parentheses after the title of the work itself for example PIERCE *Basic Virtues* (Freedom).

## BIBLIOGRAPHY

**CHRONOLOGICAL ORDER** In the Additional Readings the titles are listed in a chronological order or more precisely they are divided into two groups each in chronological order. The first of these consists of works written by the authors represented in *Great Books of the Western World* but not published in this set. The second consists of works by other authors.

The order is determined in the same way in both groups—by the date of an author's work not by his birth or death date. For each title listed in the Additional Readings the determining or order date is given in the Bibliography.

For all contemporary works and works written in English which appear in only one edition the date which follows the place of publication and the name of the publisher is the order date.

For all translations the order date is the date of the original writing or publication. This is given in parentheses along with information about the original title and its place of writing or publication.

Similarly for works which have been recently republished or which exist in several editions the order date is the date of the original publication or perhaps the date of composition. This date is given in parentheses. If it is the date of composition it is given by itself. If it is the date of a first edition or an original publication of the work it is given with other bibliographical information.

When parts of collections—poems, essays, plays—are individually cited the order is determined by the date in parentheses of the individual work, not by the publication date of the collection.

When the entry for a particular title in the Bibliography includes two dates the order date is always the one in the parentheses at the end of the entry.

A question mark in conjunction with a date signifies that it cannot be determined with certainty; the letter *c* (for *ca* or about) signifies that the date is regarded as an approximation.

In a great many cases more than one work cited for a particular author and often the publication date or even the date of composition is difficult to ascertain. This is especially true of works written in antiquity. Hence the chronological principle had to be applied with the following qualification:

- 1 When two or more works by the same author are cited they are grouped together under his name in strict chronological sequence. The chronological position of such a group of titles is determined by the date of the most recent title in the group. Hence, the whole series of individual titles in a list of Additional Readings may not be in strict chronological sequence.
- 2 If the work was published in the author's lifetime the date used (if available) was that of its first publication. In the case of posthumously published works the date of composition was used.
- 3 In the case of works for which no publication or composition date was available the date of the author's death was usually substituted or indicating the period in which he flourished the median date of the author's life.
- 4 In the case of lectures later compiled and published as books the date the lectures were first delivered was used.
- 5 In the case of a work published in several volumes over a period of years the publication date of the first volume was used.
- 6 In the case of collections of papers or essays published during the author's lifetime and within a short time of the first scattered publication of the individual papers or essays the date used was the publication date of the collection. But when the collection was published posthumously or a long time elapsed between the first scattered publication and the publication of the collection the median date of original publication dates was used. Whenever one set of dates could not be definitely determined the other was used.
- 7 If a collection published posthumously represented the bulk of an author's writing a date in the middle of his productive period was chosen.
- 8 When a single essay from a collection was cited the date of the original publication of that essay was used, not the publication date of the collection.

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- 9 In the case of single plays the date used was that of original publication or first performance whichever could be more definitely ascertained. If both were equally ascertainable the earlier was used.
- 10 The publication date of a single lyric poem was used if it appeared separately before its appearance in a collection. Otherwise the date of the collection was used.

Because the foregoing factors affected the application of the chronological principle the authors are frequently not listed in strict chronological order in the Additional Readings. However the precise chronological position of each author can be determined by his life dates which appear in the Bibliography. A question mark in conjunction with these dates signifies that they cannot be determined with certainty; the letter *c* signifies that a date is regarded as an approximation; and *fl* (for *floruit*) indicates that a date given is the period when the author flourished.

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## APPENDIX II

# THE PRINCIPLES AND METHODS OF SYNTOPICAL CONSTRUCTION

THE FOLLOWING ESSAY is intended as a supplement to the Preface. The Preface is the editor's statement of the nature, structure, purpose, and uses of the Syntopicon. But as therein remarked, it does not treat the intellectual and editorial problems which were faced in constructing the Syntopicon, nor does it explain the principles and methods by which they were solved.

Any sustained use of the Syntopicon will undoubtedly raise questions about these principles and methods. Such questions may arise from a purely speculative interest, or they may be prompted by a desire for more detailed guidance in the use of the Syntopicon—the ways in which it can be used, the procedures to facilitate its use, and the limitations to which its use is subject. This essay attempts to anticipate and to give systematic answers to such questions.

Since different problems were faced and different principles followed in the several parts of the work, this essay is divided into the following sections:

I The Great Ideas and the Inventory of Terms	1-19
II The Outlines of Topics and the Cross References	1233
III The Introductions	1254
IV The References	1265
V The Additional Readings	1295

## I THE GREAT IDEAS AND THE INVENTORY OF TERMS

THE GREAT IDEAS, LIKE THE GREAT BOOKS, represent a selection. In both cases the criteria controlling the selection can be explained. In neither case do the purpose and rationale of the choice preclude the possibility of disagreement, even when due consideration is given to these criteria.

No list of the great works of western civilization can expect unanimous and unqualified acceptance by persons learned enough to judge. There may be disagreement concerning what constitutes a great book, or concerning the principles which give form to the collection as a whole. But even when such disagreement is absent, there are likely to be differences with regard to the inclusion or exclusion of particular authors and titles.

Under the circumstances, the most that can be hoped for is that these differences concern no more than a small fraction of the whole. No greater measure of



determine which are the great ideas in that tradition. The work of constructing *The Great Ideas* began with a list much longer than the 102 chapter titles of the Syntopicon in its final form. During the first two years of preliminary work the editorial staff operated with this list of possible terms progressively reducing the number to the 102 which were finally selected.

The great majority of terms eliminated were those which did not appear to receive extensive or elaborate treatment in the great books. They were term that did not seem to have a lively career—a continuous and complex development throughout the three thousand year tradition of the great books. The editors used the actual content of the great books as the test whereby to separate a small set of truly great ideas from a much larger number of important concepts or notions. The reader can apply this test himself by comparing the 1800 concepts listed in the Inventory of Terms with the 102 ideas that are treated as the principal terms in the Syntopicon.

It seems circular to say that the great books are those which deal most fully and significantly with the great ideas and that the great ideas are those dealt with most fully and significantly in the great books. Circularity in definition is not however always a grievous fault. We recognize for example the good sense of saying that among works of art the best are those preferred by persons of the best taste and greatest critical competence yet we also find it necessary to say that among the critics of an art the best and most competent are those who like the best works best. That each is used to measure the other does not invalidate the measure for anyone who perceives that the same principle—the principle of artistic excellence—is operative though differently in both measurements. So too the same principle—that of cultural significance in the tradition of western thought—determines which are the great books and which the great ideas. When this is understood the use of each to measure the other will seem justified.

The editors were keenly aware of this problem during the period in which the two lists—of the great books and the great ideas—were being shaped and given final form each by reference to the other. But the record of their deliberations will also show that the circularity was far from complete. That it deals in an important way with the great ideas of western thought *is not the only criterion of a great book*. That it receives significant treatment in the great books of the western tradition *is not the only criterion of a great idea*. Other criteria were present in the construction of both lists. Yet even these may not be altogether independent. For example the recognition that the great books are not merely monuments of our literary and cultural past but also books of contemporary eminence parallels the recognition that the great ideas are not merely the vehicles of traditional thought but also the notions which men must use today in thinking about contemporary realities. The fundamental fact which somehow emerges is that the greatness of the books and the greatness of the ideas derive from the same source.

THE CORRELATION BETWEEN THE GREAT IDEAS and the great books is thus an answer to the question. Why were these 102 terms chosen as the basic divisions of



the Syntopicon? If the books had been radically different the ideas would have been different also. If for example *world culture* were now an historic reality and if a set of books were chosen to represent the unity and continuity of a *world tradition* the list of great ideas would probably differ in a number of striking respects. But it is the western world, not the whole world, of which these are the great books and the great ideas.

It is the western tradition *as a whole* that the great books *as a set* represent. But each one of the great ideas, not the total collection of them, stands in relation to the whole tradition represented by the set. One indication of the greatness of these ideas is that each of them pervades the entire tradition. If for example the set of great books had been restricted in any way—to represent the culture of antiquity exclusively or only modern thought, or to represent what is sometimes called the scientific tradition, as opposed to the tradition of humane letters—then a somewhat different set of terms would have had to be chosen as the great ideas of that partial or sectarian tradition.

Not all of the great ideas are equally extensive in range. Not all have equal vitality in all the epochs of western civilization, or equal significance for all its intellectual phases. In this sense they are not all equally great.

Ideas like KNOWLEDGE, MAN, GOD have the maximum range, pervading all the major periods and also all the divisions of learning or kinds of literature. Ideas like JUSTICE, LIBERTY, STATE and WEALTH on the one hand, or like MATTER, SPACE, TIME and WORLD on the other, have universality insofar as they are basic concepts in all periods of the western tradition. They are discussed from one end of the great conversation to the other. But they are not discussed in *all* the great books, for they are not relevant to every imaginative or intellectual consideration.

Still other ideas do not run evenly throughout the entire tradition. OLIGARCHY, PROPHECY and ANGEL, for example, have a more lively incidence in ancient or mediaeval than in modern thought. EVOLUTION and PROGRESS are examples of an opposite sort. There may be anticipations of these ideas in ancient and mediaeval thought, but not until the modern period do they become dominant notes in man's view of nature and history.

These exceptions to the universality—in time and interest—of the great ideas testify to the principle followed in selecting the 102 basic terms of the Syntopicon. For the most part these terms have the requisite universality. The reader can verify this for himself by observing the distribution of authors and books cited in the Reference sections of the various chapters. He will find that authors of every period have a voice in the conversation, and that almost every sort of book is represented—poetry, science, history, philosophy, theology. He will also find, however, that except for the truly ubiquitous ideas, one or another branch of learning or literature may predominate, and sometimes a whole field of inquiry may be absent. Some ideas, by the intensity of their significance for one epoch or one department of human thought, make up for their limited range or scope. To admit these to the company of the great ideas, the requirement of universality was relaxed.

The varying lengths of the 102 chapters ranging as they do from 11 to 64 pages cannot be taken without some qualification as a measure of the universality of these ideas in the tradition of western thought. The length of a chapter does not depend *only* on the volume of the references—the number of authors, books, and passages cited—it depends also upon the complexity of the idea that is upon the number of topics required to state all the related meanings, problems, or issues which have been discussed in the name of that idea. But these two factors taken together do account for the size of each chapter. The varying chapter length therefore indicates a gradation among the 102 great ideas with respect to their universality or ubiquity in extent and to their interior complexity or manifold significance in intent.

It is impossible to define any minimum degree of range and amplitude which distinguishes the ideas selected for synoptical treatment from the hundreds of other terms that were eliminated in the early stages of the work. With regard to the vast majority of those eliminated, a clear and certain judgment was possible in the light of criteria already stated. There were, of course, borderline cases in which the decision to include or exclude a term remained doubtful even after prolonged deliberation. Such decisions had to be made finally in a somewhat arbitrary fashion in terms of practical criteria not yet stated. One of these, for example, was the necessity for some limitation on the number of chapters. In some cases, the significance of the dropped term might be adequately covered in the analysis of other terms which more clearly deserved inclusion.

The first list of possible terms numbered upward of 700. It might serve some purpose to present a brief sampling of the terms which, while among the most likely candidates for inclusion, were discarded in the early stages of the work.

analysis	generation	persuasion	society
axiom	grammar	population	sovereignty
authority	growth	possibility	spirit
becoming	harmony	poverty	style
belief	heredity	poetry	substance
character	hero	prediction	superstition
choice	hope	probability	synthesis
conquest	ideal	production	taxation
contemplation	imitation	profit	teaching
creation	inference	property	temperament
criticism	instinct	providence	theory
deduction	intuition	purpose	thought
doubt	jurisprudence	reality	tolerance
environment	learning	republic	tradition
equality	marrage	relation	use
essence	methodology	revenge	utopia
equity	monarchy	rights	value
fact	nation	ruler	volition
faith	obedience	salvation	wages
fallacy	organism	self	woman
force	ownership	sex	worship
friendship	patriotism	skepticism	youth

The penultimate list consisted of 115 terms. Thirteen of these were finally dropped: analogy, biology, body, community, empire, genus, and species, health, and disease, individual, light, music, order, person, tragedy. From that point on the words or pairs of words chosen to express the great ideas numbered 101.

THE TWO MEASURES OF INTRINSIC GREATNESS—scope and significance—do not fully explain all the eliminations from the original list. Certain arbitrary factors were operative in the final determination of the 102 chapters of the *Synopticon*.

In the first place, a number of words do not appear as chapter titles simply because they are synonyms of words selected as principal terms. For example, freedom, motion, conflict, obligation, and universe were discarded in favor of their synonyms, liberty, change, opposition, duty, and world.

In the second place, certain words were paired either for convenience of treatment or because they are usually discussed together in the great books. Some times these words represent fundamental opposites: good and evil, life and death, necessity and contingency, one and many, pleasure and pain, same and other, universal and particular, virtue and vice, war and peace, and sometimes they represent closely associated terms: custom and convention, memory and imagination, sign and symbol. Opposites were not always made explicit especially if one of the pair was a purely negative term (e.g., justice and injustice, prudence and imprudence, temperance and intemperance) and this policy affected the decision not to pair cowardice with courage. Nor were closely associated terms always indicated in the chapter title. For example, becoming might have been associated with change, friendship with love, society with state, or despotism with tyranny, just as symbol is associated with sign, or convention with custom. The decision in each of these cases rested upon considerations germane to the treatment of a particular chapter in itself and in its relation to other chapters.

With one exception the decisions made with regard to synonyms and the pairing of words do not affect the number of chapters, but only the character and the number of words which appear in the chapter titles. That one exception is the pairing of memory and imagination, each might conceivably have been the title of a separate chapter. Joining them in a single chapter avoided a certain amount of duplication in the topics and references which would have appeared under each.

This leads us to a third principle—a principle of convenience—which affected the number of chapters. The number might have been made smaller by subordinating certain terms to others among the 102. For example, all the forms of government (aristocracy, democracy, constitution, monarchy, oligarchy, tyranny) might conceivably have been treated as topics or groups of topics in the chapter on GOVERNMENT, all the virtues (courage, justice, prudence, temperance, wisdom) might have been similarly treated in the chapter on VIRTUE AND VICE. But convenience dictated a separate treatment of each of these notions in order to avoid the excessive complexity and unwieldy length which would have re-

sulted from the number of topics and the volume of the references these chapters would have had to contain

The number of chapters might also have been expanded as for example by dividing *MEMORY AND IMAGINATION* into two chapters or by breaking a large and complex chapter into a number of smaller ones. This might have been done in the case of *BEING* by substituting chapters on existence essence substance reality. The reason which operated against such multiplication of chapters was (as already stated) the desire to avoid excessive duplication among topics and references.

To the extent that such pragmatic criteria or reasons of convenience were operative the number 102 and the list of terms chosen as chapter titles are somewhat arbitrary. But this unavoidable arbitrariness does not affect the character of the terms selected as the great ideas of the western tradition. Their character would have been the same had the number been 92 or 112. It would have been the same had other words been used to express the same meaning—if for example freedom had been used instead of liberty or universe instead of world. What is not arbitrary in short is the distinction between the character of the terms selected and the character of those eliminated because they do not function as major centers or pivots of discussion in the great books.

ALL THE ELIMINATED TERMS and many more appear in the Inventory of Terms. The Inventory has 1798 entries whereas the original list of possible terms numbered less than 1000. In analyzing the basic concepts it was discovered that terms not thought of as candidates for primary treatment had significance as subordinate concepts.

The composition of the Inventory of Terms tends to throw light on the character of the great ideas and to confirm the distinction between primary and subordinate concepts. But it must first be observed that not all of the words that appear in the Inventory of Terms express subordinate concepts. Some as we have already seen are synonyms for the words chosen to express the great ideas and some are words which if not strictly synonyms have a significance coordinate with that of the great ideas. Some have even more generic meaning than the chapter words and some are chapter titles.

The concept of a republic or of republican government is for example coordinate with the idea of a constitution or of constitutional government but the idea of CONSTITUTION with its correlative notions of constitutional law and the principle of constitutionality better served the purpose of analyzing this whole complex of notions as they appear in the great political and historical books of the western tradition. In other cases a word which at first seems coordinate in meaning is found on closer examination to have less generality at least so far as the great books are concerned. This is true of becoming as compared with change friendship as compared with love or atom as compared with element. In their greater amplitude the chapters on ELEMENT LOVE and CHANGE provide places for adequate treatment of these subordinate concepts.

Certain terms which may at first appear coordinate with the 102 great ideas are actually more rather than less general in their significance. Society and thought for example express concepts which require a number of chapters in part or whole for their adequate treatment. The entry under thought in the Inventory of Terms refers the reader to a large number of chapters such as IDEA JUDGMENT LANGUAGE MEMORY AND IMAGINATION MIND REASONING. The word thought is not only more general but also more indefinite: these chapters cover the discussion of thought in the more definite terms in which it occurs in the great books.

The situation with respect to society is not quite the same. The entry under society in the Inventory of Terms refers the reader to a number of chapters of which two—FAMILY and STATE—deal with the two main types of society or community (i.e. the domestic and the political). For the most part the great books discuss the family and the state rather than the more generic notion of society or human association as such. For the most part they do not discuss primitive societies which are strictly neither families nor states and if they consider other types of association such as economic corporations or religious communities they do so in relation to the family or the state. The generic concept of society is treated fully at the generic level only in the comparatively recent literature of sociology and anthropology.

It should be clear from these two examples that words expressing concepts more generic than the great ideas are relegated to the Inventory of Terms according to the same principle as that applied to words expressing subordinate concepts. In both cases the standard is set by the range and level of the discussion in the great books.

With a few exceptions such as thought and society (which are more generic) or republic (which is coordinate) the vast majority of the words listed in the Inventory are subordinate terms. Many are words which actually appear in the phrasing of one or more of the topics under the great ideas or they may be synonyms for these words. Some are words which are implied by the meaning of one or more topics. Such words and their synonyms are listed in the Inventory as well as words verbally present in the topics.

AS THE 2987 TOPICS OF THE SYNTOPICON state the themes which are discussed under the great ideas so the words listed in the Inventory represent the terms in which those themes are discussed. For both the ultimate point of reference is of course the content of the great books and of the tradition they represent. Through the intermediation of the topics the terms of the Inventory reflect the same principles of selection as do the great ideas. This accounts for differences between the Inventory of Terms and other basic word lists such as Baldwin's *Dictionary of Philosophy and Psychology*, Lalande's *Vocabulaire technique et critique de la philosophie*, the general terms contained in the classified listing of articles in the *Encyclopaedia Britannica* and the abstract titles under the classification of articles in the *Encyclopaedia of the Social Sciences*. All of these necessarily include technical terms

of highly specialized import in particular fields of inquiry. They also tend to reflect predominantly the state of knowledge and opinion in the 19th and 20th centuries—the latest developments of the tradition rather than the whole of it.

The Inventory of Terms consists mainly of words in common use. It is not the vocabulary of philosophy, science, or any other special study. It is the basic vocabulary of ordinary speech concerning ideas which belong not to the last century or to the present day, but to the collective common wisdom of mankind. Though most of its words have currency in contemporary English speech, they also have currency in the thought of thirty centuries, no matter how they were verbally expressed, in a variety of languages, living and dead.

An entry in the Inventory of Terms usually consists of a term followed by an enumeration of the topics in which that term is a significant element. There are two exceptions to this procedure, which deserve comment.

For most of the terms listed, the relevant topics are cited in a single group in the alphabetical order of the chapters in which they appear. But for a certain number of terms, the topics are divided into two groups, each arranged alphabetically. In these cases, topics of immediate relevance are distinguished from those of remote relevance. The former state themes or issues in which the term under consideration is central to the discussion; the latter, those to which it tends to be peripheral.

The second exception is the citation of whole chapters in addition to individual topics from other chapters. When whole chapters are cited, they are placed first in the enumeration, because all their topics are of maximum relevance to the term under consideration. The procedure of citing whole chapters was adopted initially in the construction of those entries which are the names of the great ideas themselves. It was extended to words which are synonyms for the chapter titles, and to a small number of other words which express terms of considerable magnitude.

The reason for the inclusion of the chapter names and their synonyms in the Inventory of Terms should be immediately apparent. Each of the great ideas is involved in the meaning of topics in other chapters. The fact that each of the great ideas is implicated in the analysis of many others shows the interconnection of the ideas, a point to which we shall return presently. It also helps to indicate the difference in magnitude—in topical range—between the great ideas and all subordinate notions.

In almost every case, the names of the great ideas (or their synonyms) have a greater number of topics cited for them in the Inventory of Terms than do other terms. This shows that they are the major terms in the tradition of western thought. They are the terms with the most varied and manifold significance, and with the greatest incidence in the discussion of important problems. It might almost be said that they are the unavoidable terms in the principal areas of discourse. That subordinate terms have a much more restricted topical range confirms the difference in discursive amplitude between them and the great ideas.

The reader can therefore verify for himself, by examining the Inventory of Terms, the difference between the great ideas and all other terms. He need only

compare the number and variety of topics cited for the great ideas and for all other terms. By the same criterion he can also order all the other terms in the Inventory according to the degree to which they approach the great ideas in topical range. He would find that the class of terms which by this test most nearly approximated the great ideas is not large—probably much less than one hundred of the 1798 terms in the Inventory. These would be the borderline terms—the few whose omission from the company of the great ideas might be disputed.

THE 102 CHAPTERS OF THE SYNTOPICON present the great ideas in alphabetical sequence. The Inventory of Terms is also alphabetically arranged partly for convenient reference and partly to avoid the formulation of any rigid systematic order among the great ideas and their subordinate terms. Many systematic arrangements of these concepts are possible and the adoption of any one of them would be prejudicial to the others. The alphabetical arrangement admits all possibilities and conceals all alike. On the other hand as we have just seen the Inventory of Terms reveals as well as conceals the relation of the great ideas to one another and of other terms to them. But the relationships revealed in the Inventory are not systematic in the sense of giving one idea or set of ideas logical priority over others.

The Inventory of Terms merely shows the subordination of one concept to another insofar as the one enters into the topics which express the content of the other. But this sort of relationship between two great ideas does not place them in a fixed systematic order for each may be subordinate to the other—that is each may be involved in the topics of the other. LIBERTY for example is involved in the topics of JUSTICE and JUSTICE in the topics of LIBERTY. INFINITY is involved in the topics of SPACE, TIME, MATTER, and WORLD and they in turn are involved in the topics of INFINITY.

Other types of relation among the great ideas are indicated in the Introductions and the Cross References which are respectively the first and fourth parts of each of the 102 chapters. Both of these parts of the Syntopicon are discussed at greater length subsequently in this Appendix. Here it is sufficient to point out that the interconnection of the great ideas which the Introductions and the Cross References suggest is an order no more systematic than that indicated by the Inventory of Terms.

The Cross References in one chapter call the reader's attention to similar or related topics in other chapters. A particular Introduction usually refers the reader to other Introductions for a fuller consideration of certain matters or for the exposition of affiliated points. That neither of these types of connection sets up a systematization of the ideas is simply shown by the fact that neither places them in a unique logical order. The Introduction and the Cross References merely show that one idea is related to a number of other ideas without specifying the logical character of the connection. Without such specification the network of connections set up by the Inventory of Terms, the Introductions and the Cross References cannot become a systematic order.

A systematic order of concepts belongs properly to the exposition of a doctrine. The tradition of western thought contains a variety of doctrines many of them conflicting. Of these certainly of the principal ones the great books provide the best and fullest exposition and their conflict appears most sharply whenever the voices in the great conversation engage in explicit controversy. *The Great Ideas* as a synopticon of the great books must therefore avoid so far as that is humanly possible any trace of systematic order. In no other way could it present the whole tradition free of prejudicial coloring by any one of its parts. In no other way could it embrace every variety of position without the distortion that would necessarily follow from a stronger attachment to one than to others.

Detachment is the essence of a purely dialectical treatment of ideas as opposed to the dogmatic exposition of a particular doctrine—dogmatic not in the sense of being without rational foundation or defense but simply in the sense of being attached to some particular order of ideas in preference to all others. The explanations which follow concerning the construction of the Outlines of Topics and the manner in which the Introductions were written will offer further evidence of the dialectical detachment that was sought in every phase of this work because it was necessary for carrying out the conception of the Synopticon. That dialectical detachment is preserved by the alphabetical ordering of the great ideas insofar as it alike admits or conceals all possible orderings and it is confirmed by the non systematic character of the various connections among the great ideas as these are indicated by the Inventory of Terms the Cross References and the Introductions.

THESE CONNECTIONS THOUGH NOT SYSTEMATIC are neither haphazard nor insignificant. They point to various constellations of ideas which are the conceptual patterns of major fields of learning or inquiry.

Consider for example the interconnection of the ideas of GOVERNMENT FAMILY STATE LAW CONSTITUTION DUTY JUSTICE LIBERTY MAN CITIZEN SLAVERY PUNISHMENT WAR and REVOLUTION and of these with the ideas of particular forms of government such as ARISTOCRACY DEMOCRACY MONARCHY OLIGARCHY and TYRANNY. These ideas have more complex and intimate relations with one another than any of them has with such ideas as ANIMAL CHANCE DEFINITION EVOLUTION MATTER SENSE SOUL or WORLD. Their interconnection forms that constellation of concepts which characterizes the field of political thought and distinguishes it from all other field.

The interconnection of the ideas of LABOR WEALTH JUSTICE LIBERTY SLAVERY FAMILY STATE REVOLUTION WAR and perhaps DEMOCRACY and OLIGARCHY forms the constellation of concepts which characterizes the field of economic thought. To take a more sharply contrasting example the interconnection of the ideas of GOD MAN IMMORTALITY FATE PROPHECY SOUL SIN WORLD RELIGION and THEOLOGY and the relation of these to such ideas as GOOD AND EVIL DUTY HAPPINESS VIRTUE LAW and PUNISHMENT constitute the conceptual pattern of religious thought.



In none of the preceding examples is the enumeration of ideas intended to be exhaustive. In each case only the principal concepts are mentioned. But even if to these were added all the peripheral concepts—those having any appreciable degree of relevance to the subject matter—many of the great ideas would still be omitted from the constellation of concepts involved in a particular subject matter or field of inquiry. This indicates that every idea is not associated equally with every other. All belong together in the single intellectual firmament of western thought, but they also form separate sub groups or constellations which delineate traditional subject matters.

Yet one may wonder whether every great idea is not in some way related to every other—if not directly, then at least through the mediation of other ideas. Some evidence on this point is afforded by the examples given above. Politics and economics have common ideational elements. The concepts of JUSTICE, LIBERTY, SLAVERY, FAMILY, STATE, REVOLUTION, WAR, DEMOCRACY and OLIGARCHY are involved in both fields of thought. Politics and religion also have common ideational elements (*vs.* MAN, DUTY, LAW, PUNISHMENT). By this measure they would seem to overlap less than do politics and economics. But whether they overlap more or less, it is through the relation of the various fields of inquiry to one another that each of the 10+ great ideas has some degree of relevance to all the others.

At different times in the tradition of western thought the major fields of inquiry or subject matter have been differently conceived, and either more broadly or more narrowly defined. According to different doctrines the relation of the fields to one another—the order of the sciences, the general groundplan of learning—is differently construed. Hence it would be prejudicial and presumptuous to advance here a definitive formulation of concepts, central and peripheral, which separate or relate the traditional fields of inquiry, such as politics, ethics or morality, economics, religion and theology, metaphysics, physics, biology, or the philosophy of nature, psychology, anthropology, or the philosophy of man, epistemology or the theory of knowledge, history and the philosophy of history, the liberal arts of grammar, rhetoric, and logic, poetry and the philosophy of art.

By using the Syntopicon the reader can discover for himself the grouping of the great ideas in the various patterns appropriate to distinct and related subject matters. In doing this he will be aided primarily by the Cross References and the Introductions, and also to some extent by the Inventory of Terms. Instead of constraining him by dogmatically imposing one against any other construction of the fields of learning, the Syntopicon leaves the reader free to find, and even facilitates his finding, the various and often conflicting constructions that have been made in the tradition of the great books.

IT MAY BE OBSERVED THAT OF THE VARIOUS FIELDS OF LEARNING named above some are also names of great ideas, whereas others, which seem to be of equal importance, are not. This fact requires some explanation. It also raises the question whether the great ideas are all ideas in the same sense. Is the idea which signifies

a field of learning or a subject-matter such as mathematics physics or theology the same sort of conception as the ideas which signify basic notions in that particular field? Is the chapter on PHYSICS for example on the same level with the chapters on CHANGE ELEMENT MATTER SPACE TIME?

Clearly there is a difference between these two orders of ideas. The conception of a science a subject-matter or a field of inquiry is obviously different from the conception of the objects or realities considered in that field. One of the basic problems throughout the tradition of western thought has been the division of human knowledge the definition of the departments of learning the nature and order of the arts and sciences. Hence among the great ideas certain ideas have developed in the course of thinking about this problem. They are conceptions of the nature of particular sciences or subject-matters.

But not all subject-matters which appear in the most recent classifications of the sciences are discussed at sufficient length in the great books to warrant their taking their place among the great ideas of the whole tradition. Psychology for example does not receive as much attention as physics and so there is a chapter dealing with the conception of physics but none dealing with the conception of psychology. Instead the consideration of psychology appears primarily as a group of topics in the chapters on MAN and SOUL. Grammar likewise does not receive the attention that logic and rhetoric do accordingly there are chapters dealing with the arts or sciences of logic and rhetoric but none dealing with grammar. Instead grammar is considered in a group of topics in the chapter on LANGUAGE and also occurs in the chapters on LOGIC and RHETORIC in topics which treat the relation of grammar to these other arts.

By consulting the Inventory of Terms the reader will be able to discover in which chapters and under which topics consideration is given to the arts sciences or branches of learning whose names do not appear among the 102 chapter titles. It may be useful however to enumerate those chapters which deal with branches of learning or fields of inquiry. They are ASTRONOMY DIALECTIC HISTORY LOGIC MATHEMATICS MECHANICS MEDICINE METAPHYSICS PHILOSOPHY PHYSICS POETRY RELIGION SCIENCE and THEOLOGY.

With a few exceptions each of these chapters is devoted entirely to the consideration of a discipline or subject-matter—its definition its scope its principles methods and problems. The exceptions are the chapters on ASTRONOMY HISTORY MECHANICS and MEDICINE which are concerned *only in part* with various conceptions of the nature principles and methods of the disciplines named. In part they *also* include topics which state issues not *about* these sciences but *within* them—issues about the objects studied in these sciences.

The chapter on ASTRONOMY for example includes discussions of celestial phenomena in general and of particular heavenly bodies the chapter on HISTORY includes discussions of the processes and patterns of historical change the chapter on MEDICINE includes discussions of the nature causes and classification of diseases and the general theory of health and considerably more than half the chapter on MECHANICS deals with the basic notions in the science of mechanics and the

concepts and problems of various branches of physical science. This part of the chapter on **MECHANICS** is (along with such chapters as **SPACE**, **TIME** and **QUANTITY**) the complement of the chapter on **PHYSICS** which concerns itself entirely with the character of physics as an experimental science and as a philosophy of nature.

The other chapters which are restricted to the consideration of the character and method of particular disciplines also have their complements. The chapters on **DEFINITION**, **HYPOTHESIS**, **IDEA**, **INDUCTION**, **JUDGMENT**, **OPPOSITION**, **PRINCIPLE** and **REASONING** for example are complementary in the sense indicated to the chapter on **LOGIC**; the chapters on **INFINITY**, **QUANTITY**, **SPACE** and **TIME** are complementary to the chapter on **MATHEMATICS** and so on for each of the chapters which revolve around the nature and methods of a particular discipline.

That the chapters on **ASTRONOMY**, **HISTORY**, **MECHANICS** and **MEDICINE** are treated somewhat differently from the rest (being mixed chapters rather than exclusively concerned with the idea of a science or of its subject matter) is explained in the same way as the fact that the sciences of economics and psychology are treated in topics subordinate to the ideas of **WEALTH** and **MAN**. On purely logical grounds these disciplines or branches of learning may be considered as important as **ASTRONOMY**, **MECHANICS** or **PHYSICS** but as a matter of historic fact they have not been equally subjected to analysis, definition and discussion in the tradition of western thought especially when that is taken as a whole. All such differences in treatment reflect the actual content of the great books rather than any theory developed apart from the books or according to the bias of one period or phase of the tradition.

WE HAVE NOW SUFFICIENTLY EXPLAINED the selection of the 102 great ideas and their relation to one another and to the concepts enumerated in the Inventory of Terms. We have distinguished whatever was based in the treatment of the ideas on purely pragmatic considerations or reasons of convenience from policies which were based on theoretic principles reflecting the conception of the Syntopicon itself. We have observed a number of differences among the great ideas that all are not equally great, not equally complex in structure or extensive in scope, that they vary in the range of subject matters to which they pertain or in the emphasis they receive in different periods or phases of the western tradition, that they are not all on the same level, some being concepts of the branches of human learning, others concepts of the objects of human inquiry.

One more point of difference among the great ideas remains to be mentioned. That is the difference between what might be called the easy and the difficult ideas. The measure of this difference is the number of distinct meanings which have been attached to the name of an idea in the tradition of the great books.

Two ideas represent the extremes between which all the rest vary. One extreme is the chapter on **IDEA**; it almost seems that no two of the great books which expound a theory of ideas use the word **idea** in the same sense. At the

*other extreme is the chapter on PUNISHMENT* the authors of the great books may differ in their theories of the purpose or use of punishment but they differ very little if at all on the meaning of the word punishment

In proportion to the degree of their systematic ambiguity the great ideas are more or less difficult as subjects for syntopical treatment. The names of the great ideas like other words have systematic ambiguity when their various distinct meanings are related according to some principle. That the ambiguity be systematic is obviously indispensable to the unity of each chapter dealing with a great idea. To preserve the unity of a chapter some intelligible relation must obtain among all the senses in which its principal term is used in the topical development of the idea. The unity of each chapter depends on the existence of a common thread underlying all the twists in meaning that its principal term undergoes.

Sheer equivocation—that is the use of the principal term in two absolutely unrelated meanings—would divide the chapter into two parts with no reason for their being together except a purely verbal identity of accidental origin. Hence in proportion as the word expressing an idea is more ambiguous the danger is greater that the systematic ambiguity may verge upon sheer equivocation.

The handling of the systematic ambiguity itself and the avoidance of sheer equivocation are the two aspects of the semantic difficulty encountered in treating almost all of the great ideas because of their manifold or complex significance. The solution of this difficulty—different in different chapters according to the precise nature of the semantic problem in each—was achieved by means of the topical subdivision of the great ideas. The order and relation of the topics made it possible to take care of the order and relation of the various meanings of the idea. A fuller statement of the way semantic difficulties were overcome in the construction of the Syntopicon belongs therefore to the next section of this essay which deals with the Outlines of Topics.

## II THE OUTLINES OF TOPICS AND THE CROSS-REFERENCES

THE TOPICS ARE THE BASIC UNITS OF THE SYNTOPICON. They perform a double function. The Outline of Topics in each chapter is the analysis of a great idea setting forth its various meanings, its themes and problems, and the individual topics serve as the immediate headings under which are assembled the references to the discussion of each particular subject in the great books. The topics are the major subdivisions of the discussion in the sphere of each of the great ideas as the ideas are the main divisions of the whole discussion in the great books. As each idea represents a general field of discourse—a domain of learning and inquiry—covering a variety of related themes and problems so under each idea the various topics represent the themes and problems which are the particular subjects of discussion in that field.

To understand how the topics perform these two functions—that of analyzing the ideas and that of providing headings for the references—it is necessary first to consider the nature and variety of the individual topics and second to exam-

ine the structure of the *Outlines of Topics* in the light of the principles which determined the order of the topics the selection of certain topics and the omission of others

A topic is essentially a subject for discussion. The Greek word *topos* from which topic is derived literally means a *place*. Its literal meaning is retained in such English words as *topography* and *topology* which signify the study of physical or geometrical places. The conception of a topic as a subject for discussion is a metaphorical extension of this root meaning. A topic is a logical place. It is a place where minds meet to consider some common problem or theme.

The minds may agree or disagree they may argue the matter from different points of view they may contribute to the discussion in a variety of ways—by offering examples by proposing definitions or hypotheses by stating analyses or arguments by debating what has already been said or by advancing a new view. But whatever form each contribution takes it must be relevant though it need not be relevant in the same way or to the same degree. The various contributions are relevant to each other through their relevance to the common theme or problem and this gives unity to the variety of things being said.

A topic then is a place where minds meet through being relevant to a common subject of discussion. It is a place at which an intelligible exchange of thought insight or opinion can occur. We recognize this when we refer to the topics of a conversation and thereby we also acknowledge that a conversation in order to be good must have topics. The more conscious it is of its topics the better a conversation is the better it can sustain relevance as it shifts from theme to theme.

In this sense the conception of the *Syntopicon* is inseparable from the conception of the tradition of western thought as a single great conversation in which the best minds of every period and persuasion have participated. As the units of any good conversation are its topics so the units of the great conversation are the 3000 topics under which the *Syntopicon* cites relevant discussion in the great books. If the notion of the great conversation had been a myth the *Syntopicon* could not have been constructed at all. To say that these two volumes of *The Great Ideas* make possible a syntopical reading of the great books is to say also that they bear witness to the actuality of the great conversation.

The traditional conception of a topic belongs to the logic of discussion—of dispute controversy or any other exchange of opinion among men. It is not necessary that every topic be disputed for it to be true that every topic is necessarily disputable. Wherever a difference of opinion is possible or wherever a variety of relevant views is conceivable there a topic can be formulated for there will be a meeting place for discussion. According to this understanding of the nature of a topic the 3000 topics of the *Syntopicon* are the meeting places of western thought. They are not possible but actual topics. Discussion of each of them can be found in the tradition of the great books.

TO ACCORD WITH ITS LOGICAL FUNCTION a topic must have a certain grammatical and perhaps even rhetorical form. For example a topic is not a proposition. It

neither asserts nor denies anything. It is neither true nor false. It would be inappropriate therefore to state a topic in a declarative sentence.

If we consider the relation of law to liberty we can assert in a proposition that the supremacy of law is the principle of political liberty or we can deny this if we say it is *not* the principle. But topic 7b in the chapter on LAW does neither and permits both. This topic—The supremacy of law as the principle of political liberty—merely presents for consideration one traditional formulation of the relation of law to liberty.

It may be supposed that if a topic states a problem it should be put in the form of a question. For example LAW 7b might have been expressed thus: Is the supremacy of law the principle of political liberty? or: Whether the supremacy of law is the principle of political liberty? But the interrogative form of statement is almost as restrictive as the declarative. It seems to call only for a Yes or No answer. If the issue were as simple as this it might have been most explicitly expressed in the form of a dilemma: *Either* the supremacy of law is the principle of political liberty *or* it is not. But a dilemma of this sort does not exhaust all the relevant possibilities. It is therefore a bad phrasing of the topic and at the same time indicates what is wrong with the interrogative phrasing. It limits the topic to one question or one issue.

The topic concerning the relation of law to liberty raises more than one question. Its phrasing permits such questions as: In what sense is the supremacy of law the principle of political liberty? Furthermore as phrased the topic allows for more than an affirmation or a denial. It permits the expression of doubt on the subject: it permits the formulation to be entertained as an hypothesis for the purpose of seeing what consequences follow: it is open to a variety of explanations or reasons for thinking that the supremacy of law is or is not the principle of political liberty: it is even open to the adduction of examples—particular instances in history or fiction which show the dependence of political liberty upon the supremacy of law or the opposite.

A topic in short must have greater amplitude than any other logical form of statement. The familiar grammatical forms of the declarative or interrogative sentence or even the complex sentence which expresses a dilemma are therefore inappropriate for the statement of topics. Since it must be able to include all these and more the statement of a topic must be less determinate in verbal structure.

It is easier to say what a topic is not than what it is or should be. If it must always be a less determinate expression than a sentence and if it must usually be a more complex expression than a single word or pair of words (which are the verbal expression of terms such as the great ideas) it would seem to follow that the proper expression of a topic is a phrase—often perhaps a fairly elaborate phrase involving a number of terms and signifying a number of possible relations between them. This general description of the grammatical form of a topic does not however convey an adequate notion of the extraordinary variety of possible phrasings.

An examination of the phraseology employed in the statement of the 3000 topics of the Syntopicon will reveal many types of topical statement. Some topics are simple and others complex and of the complex topics some involve two and some more than two component phrases related as coordinate as primary and secondary or in some other way. For example: The ideal of the educated man (EDUCATION 1a) is a simple topic; The right to property—the ownership of the means of production (LABOR 7b) is a complex topic and The use and criticism of the intellectual tradition—the sifting of truth from error—the reaction against the authority of the past (PROGRESS 6c) is a more complex topic. We shall return presently to the problem of the complex topic and especially to the consideration of the relation of its parts.

For the moment let us examine the various ways in which topics—simple or complex—are phrased. The following is a far from exhaustive sampling of the types of topical statement but among the 3000 topics of the Syntopicon there are many instances of each type.

COURAGE 1 The nature of courage

DIALECTIC 1 Definitions of dialectic

CHANCE 1 The conception of chance

GOVERNMENT 1c The attributes of good government

MAN 1 Definitions of man—conceptions of the properties and qualities of human nature

PLEASURE AND PAIN 2 The causes of pleasure and pain

ART 7a Art as a source of pleasure or delight

LABOR 3 The kinds of work and the relationship of different types of workers

MEDICINE 5b The classification of diseases

HAPPINESS 2b(2) Pleasure and happiness

CAUSES 3 Causality and freedom

COURAGE 7c Courage in war

HABIT 3c Instinct in relation to reason

ARISTOCRACY 2 The relation of aristocracy to other forms of government

CUSTOM 1 The distinction between nature and convention—its application to the origin of the state and of language

CONSTITUTION 1 The difference between government by law and government by men—the nature of constitutional government

FAMILY 2b Comparison of the domestic and political community in manner of government

JUSTICE 3 The duties of justice compared with the generosity of love and friendship

ART 11 Myths and theories concerning the origin of the arts

DEMOCRACY 5b The theory of representation

GOVERNMENT 1 The general theory of government

EVOLUTION 4 The problem of evolution the origin of plant and animal species

CHANGE 13 The problem of the eternity of motion or change

ELEMENT 5b Arguments for and against the existence of atoms the issue concerning the infinite divisibility of matter

POETRY 9b The issue concerning the censorship of poetry

OPINION 5b Advantages and disadvantages of freedom of discussion

EDUCATION 8b The economic support of educational institutions

EXPERIENCE 6b The role of experience in politics the lessons of history

The foregoing examples illustrate various forms topics take according to the different kinds of subjects they propose for discussion. Some deal with the nature of a thing or its definition, some with its qualities or attributes, some with its causes, and some with its kinds; some deal with distinctions or differences, and some with comparisons or contrasts; some propose a general theory for consideration, some present a problem, and some state an issue. Some—such as the last three above—are difficult to characterize by any formula. The reason for all these types of topical statement—and others not illustrated in the examples given—cannot be explained without reference to the Outline of Topics as a whole.

In the Outline of Topics for each chapter many different kinds of topics are necessary to cover the whole field of discussion represented by a great idea. Thus, for example, a topic like COURAGE 1—The nature of courage—will occur in many chapters, for many chapters open with a consideration of the nature of the thing signified by their principal term. A topic like ARISTOCRACY 2—The relation of aristocracy to other forms of government—will appear frequently for the discussion of the principal term, usually involving the consideration of its relation to other terms. A topic like EMOTION 2—The classification and enumeration of the emotions—or LABOR 3—The kinds of work and the relationship of different types of workers—will often occupy a place in an Outline of Topics because the classification or enumeration of kinds is a matter considered in many fields of inquiry or discussion. The same can be said for the topics which state theories, problems, issues, definitions, attributes, distinctions, comparisons, and so on.

Under a great idea many different kinds of subjects are discussed, and these are represented by the various topics set forth in the Outline of Topics for each of the great ideas. It is not surprising that the discussion of one idea should re-



semble in many respects the discussion of another hence we should not be surprised to find a certain sort of topic in chapter after chapter. Some kinds of topics will of course appear more frequently than others some chapters will have a much greater variety of topics than others.

THE TOPICS NOT ONLY VARY IN TYPE according to their subject matter they also vary in scope or amplitude according to the broadness or narrowness of the theme they enunciate. Some are open to every type of discussion whereas others seem to impose certain restrictions upon the type of discussion that would be relevant. A topic like Arguments for and against the existence of atoms specifically calls for arguments. In contrast a topic like The issue concerning the censorship of poetry permits in addition to arguments for or against censorship discussions of the issue itself dealing perhaps with its significance its presuppositions or implications and its relation to issues concerning the censorship of other forms of expression. Even broader or more open in this respect are such topics as The difference between government by law and government by men or Art as a source of pleasure or delight.

In terms of what a topic purports to be every topic should have a certain minimum amplitude. It should solicit and allow the expression of opposite opinions on whatever is the subject of discussion. Whether the topic happens to be stated positively or negatively it should cover both negations and affirmations of the point in question. It may have greater amplitude than this but thus much at least it should have. Since a topic is a meeting place for minds that disagree or differ it is defective if its wording suggests one point of view or one position on an issue where many are possible or where opposite arguments or views are known to exist.

What has just been said applies to topics generally as statements having a certain logical character. But because they are intended to function as the commonplaces of the great conversation the topics of the Syntopicon should have scope or range of another sort in addition to logical amplitude. Ideally they should be so conceived and so phrased that each topic is able to solicit or to cover contributions from the whole range of authors and works included in *Great Books of the Western World* and from the books of the Bible as well. This means that the ideal topic is one which is open to contributions from the poets and historians as well as the scientists philosophers and theologians which can cover every variety of doctrine or opinion that has been expressed in the tradition of the great books and which is equally receptive to the imagination and thought of ancient mediaeval and modern times.

These are difficult requirements to meet. They demand a comprehensiveness difficult to achieve without falling into a vagueness which would render the topic useless or unintelligible. They demand in the formulation of the topic an almost perfect impartiality on the level of thought and neutrality on the level of language. The more various and opposed the partisan views a topic tries to cover the more difficult it is for the topic to be conceived impartially that is without

prejudice to any of these views so that it seems to be formulated as if from *no* point of view. The more diverse and incompatible the terminologies in which the opinions to be covered are expressed the more difficult it is for the topic to be worded neutrally that is without verbal coloration from one or another of the many vocabularies that have been used for the expression of relevant opinions.

In view of such difficulties it could hardly be expected that the ideal would be realized in the formulation of every one of the 3000 topics in the Syntopicon. Yet it is realized in many and approximated in a fairly large proportion of the rest. Those which fall short of the ideal seem to be of two main types.

(1) Some topics are so conceived and phrased that their coverage is restricted to analytical or argumentative discussions—discussions of the sort which are to be found in expository works of science, philosophy and theology or in the discursive passages of poetry and history whether in the speeches of historical or fictional personages or in the comments of the poets or historians themselves. The conception and wording of the topic tends to exclude exemplary or imaginative material of the sort to be found in the narrative passages of history or fiction or in other instances the topic tends to exclude material of purely illustrative significance such as reports of experiments in scientific books. These topics fall short of the comprehensiveness of the ideal topic by virtue of the type of material they reject.

(2) Some topics are so conceived and phrased that their coverage is restricted to the doctrines, theories or opinions of one part, period or phase of the whole tradition. The limitation on the range of materials which are admissible under such topics may be more or less stringent. Least restricted are those topics which fail to comprehend both pagan and Christian literature because they are so conceived and worded that they apply to one or the other but not both of these two major phases of the western tradition. More restricted are those topics so conceived and worded as to apply only to a certain group of authors sharing a common doctrine or vocabulary. Most restricted are the topics which cover the thought of a single author. The last represents the extreme opposite of the ideal topics which cover the thought and imagination of every period and every variety of doctrine or opinion no matter how they may be verbally expressed. But all three of these defective topics fall short of the ideal by virtue of their acknowledged failure to be impartial in thought or neutral in phrasing.

THE SECOND OF THE TWO MAIN TYPES OF DEFECTIVE TOPICS fails to perform the logical function of a topic and also fails to do what the topics were normally intended to do in the construction of the Syntopicon. Logically a topic should be hospitable to differences of opinion or opposite views on the same subject. If for example there are two or more contrary views on a given subject it should be possible to formulate a topic which indicates the subject of the controversy in a manner that is impartial to all sides. But this was not always possible because of difficulties inherent in the materials to be covered. It sometimes became necessary in constructing topics appropriate to the content of the great books to state con-

trary views in a *set of topics* each worded to fit the particular view it represents. This *set of topics* then performed the logical function which ideally a single topic should perform and from the point of view of the Syntopicon the set of topics provided the remedy in all those instances in which logically defective single topics seemed to be unavoidable. It had the requisite comprehensiveness for a syntopical reading of the great books.

Before we examine the remedy it may be useful to examine the reason it was necessary. The authors of the great books tend to have special vocabularies. This has little to do with the diversity of the languages in which they originally wrote; it is rather the result of the diverse *terminologies* they use to express their thought. This is as apparent in English translations of their works as it is in their original languages.

The more inventive and fecund a great mind is the more it will shape the language it uses to fit its thought. To express a new idea or insight a new word is invented or an old word given a novel meaning. Sometimes in the development of his own characteristic vocabulary a great writer uses a new word for an old idea which he has appropriated and assimilated to his own thought. Sometimes the opposite occurs: the traditional word is appropriated or borrowed but the idea which it long expressed is replaced either by a totally new or at least by a variant conception.

It can be said without exaggeration that no two authors of the great books have identical vocabularies. This does not mean that they share no common terms—identical words with identical meanings. On the contrary, even those who seem to be most divided by the differences in their terminologies give evidence of belonging to the same tradition by their common acceptance of a large number of terms. Yet from the extreme at which they share a minimum number of important terms to the extreme at which their basic vocabularies are much more alike than different, this much can be said of *any two authors of the great books*: first that they use some words in the same way and some differently, and second that when they use words differently they are either expressing the same thought in different words or are using the same word to express wholly or partially different notions.

These facts do not make it impossible for the tradition of the great books to have the qualities of a good conversation. But the necessity of shifting from the vocabulary of one to the vocabulary of another makes it difficult, often extremely difficult, to discover and point out when the authors are talking about the same idea and in what way their remarks are relevant to the same theme. These are the semantic difficulties which the Syntopicon had to overcome in order to reveal and record the existence of the great conversation.

FOR THE MOST PART DIFFERENCES IN TERMINOLOGY do not make it impossible for topics to cover all authors who make some contribution to the discussion of a particular theme. Even though they do not all use the same word to express their thought or do not attach the same meanings to the words they use in com-

mon it is usually possible to find a neutral phrasing for the topic. If the relevant authors use the same words with different—but *related*—meanings the language of the topic will have the systematic ambiguity necessary to cover these variations. If the relevant authors do not all use the same words to express their thought but use words which are closely related in meaning then it may still be possible to find a neutral phrasing for the topic.

This may be achieved by formulating the topic in the words of ordinary discourse words which are not specially characteristic of any of the authors. Another method is to phrase the topic in the words used by one author or group of authors. This can be done without prejudice to the thought of the others when the key words in the distinct vocabularies of the several authors are related as synonyms. It may even be possible to use synonyms in the phrasing of the topic to represent the vocabularies of different authors. By any of these methods the wording of the topic can be given sufficient systematic ambiguity to carry all the related meanings.

Sometimes however the meanings which different authors attach to the same word are *not closely related*: sometimes an author has coined words to express his meaning or given certain words or phrases the stamp of his own doctrine. Sometimes the words used by an author have overtones or systematic implications which make it impossible to find synonyms for them in the language of other authors or in the vocabulary of ordinary speech. In all these cases a single topic to cover all the authors concerned would require phrasing so vague or so general that it could not contribute anything to the analysis of the idea under which it occurred. Such semantic difficulties were usually solved by the construction of a *set of topics* each phrased in the language characteristic of particular authors or groups of authors. The unity of the set was indicated by a topic which served as the heading under which the particular topics were assembled. For the purpose of stating this unity a vague or general phrasing of the heading was satisfactory since the content of the discussion could be sufficiently indicated by the more explicit phrasing of the subordinate topics.

For example in the Outline of Topics for the idea of DIALECTIC four topics state four distinct theories of the nature of dialectic. The heading for the group of topics—2 Diverse theories of dialectic—merely indicates that the subordinate topics state the different conceptions to be found in the tradition of the great books. The four topics are phrased in a manner appropriate respectively to the thought of Plato, Aristotle, Kant and Hegel and Marx.

- 2a Dialectic as the pursuit of truth and the contemplation of being
- 2b Dialectic as the method of inquiry, argument and criticism in the sphere of opinion
- 2c Dialectic as the logic of semblance and as the critique of the illusory employment of reason beyond experience
- 2d Dialectic as the evolution of spirit or matter

The use of the words *or matter* in topic 2d shows how a single topic can be so phrased as to cover the thought of authors whose positions have a certain affinity even though they disagree as much as do Hegel and Marx. For both Hegel and Marx dialectic is an evolution. Phrasing the rest of the topic in the alternative (*112 of spirit or matter*) enables it to associate under one heading the Hegelian conception of the dialectic of spirit and the dialectical materialism of Marx.

Another example can be found in the chapter on *IDEA*. Here the six topics which appear under the general heading— 1 *Doctrines of idea*—represent phrasings appropriate to groups of authors or to single authors. The six topics are

- 1a Ideas or relations between ideas as objects of thought or knowledge  
the ideas as eternal forms
- 1b Ideas or conceptions as that by which the mind thinks or knows
- 1c Ideas as the data of sense experience or their residues
- 1d Ideas as the pure concepts of reason regulative principles
- 1e Ideas in the order of supra human intelligence or spirit the eternal  
exemplars and archetypes the modes of the divine mind
- 1f Idea as the unity of determinate existence and concept the Absolute  
Idea

Again it can be pointed out that the wording of topics 1a and 1e permits the association of authors whose doctrines are affiliated even though they do not agree—Plato with Locke in the case of topic 1a Spinoza with Aquinas and Augustine in the case of 1e.

Sometimes however a topic that is restricted to the doctrine of one author may have to be introduced into a set of topics all the rest of which have general or unrestricted range. This happens most frequently when a particular author makes a contribution to the conversation which no one else anticipates or echoes. Thus in the chapter on *MEMORY AND IMAGINATION* under the heading of a general topic a specially phrased subordinate topic had to be introduced for the contribution of Freud. The general topic was 8 *The nature and causes of dreaming* the subordinate was 8d(1) *The manifest and latent content of dreams the dream work*.

In the chapter on *LABOR* under the general heading 7 *Economic and political justice to the laborer* a subordinate topic specially phrased had to be introduced for the contribution of Marx 7c(3) *The proletariat as a revolutionary class its revolutionary aims*.

In the chapter on *BEING* under the general heading 7b *The distinction between substance and attribute accident or modification independent and dependent being* a specially phrased subordinate topic had to be introduced for the contribution of Descartes and Spinoza 7b(4) *Extension and thought as dependent substances or as attributes of infinite substance*.

These restricted or doctrinal topics are *exceptions* to the rule. Most topics have ■ neutral phrasing and a systematic ambiguity which permit them to comprehend the whole tradition and all differences in doctrine or opinion. The great majority are topics like The happiness of the individual in relation to the happiness or good of other men (HAPPINESS 5a) or Chance necessity and design or purpose in the origin and structure of the world (CHANCE 3) or The political regulation and censorship of education (EDUCATION 8c). Topics of this sort contain no words prejudicial to the thought of any author and impartially cover every variety of relevant opinion in the whole tradition of western thought no matter how violently the opinions may differ.

In short the topical ideals of comprehensiveness and impartiality were achieved in the Syntopicon either by single topics ■ or by sets of topics which comprehended the dialectical development of a concept or an issue in western thought. The rule followed was to employ single topics wherever they could be constructed and to construct a set of doctrinal topics or to introduce a doctrinal topic into the context of others *only when the semantic difficulties could not be otherwise surmounted.*

TO FOLLOW THE RULE OF USING SINGLE TOPICS wherever they could be constructed and to approach the ideal of making them as comprehensive ■ possible it was sometimes both necessary and desirable to formulate a complex rather than a simple topic.

Examples of these two kinds of topics have already been given. The most obvious distinction between them can be most precisely stated in grammatical terms. The simple topic is undivided: its elements are words all of which belong to the same phrase. The complex topic is divided: its divisions are indicated by two kinds of punctuation. A colon divides the complex topic into its two main parts. The first of these two parts is usually undivided but the second may be divided into two or more subordinate parts by semi colons. The two main parts of a complex topic are always separate phrases when the second of these is divided: its parts are usually separate phrases.

From this grammatical description of the complex topic it might be inferred that considered logically it is always a union of two or more simple topics each expressed by separate phrases. But this is not always the case. Complex topics seem to fall into three principal types and their differences must be examined in order for their several distinct functions to be understood.

(1) Sometimes the phrase following the colon does not represent a separate topic but merely makes the meaning of the phrase preceding the colon clearer in some way—by expanding it by specifying it even by illustrating it. The colon separating the first phrase from the one or more phrases which follow ■ roughly equivalent in meaning to the words that is to say or such as. The first type of complex topic ■ therefore only grammatically not logically complex and cannot be broken up into two or more separate topics.

The following examples illustrate the first type of complex topic

HISTORY 4*b* The laws and patterns of historical change cycles progress evolution

CITIZEN 8 The idea of world citizenship the political brotherhood of man

EDUCATION 2 The kinds of education physical moral liberal professional religious

CONSTITUTION 7*b* The safeguards of constitutional government bills of rights separation of powers impeachment

JUSTICE 3 The precepts of justice doing good harming no one rendering to each his own treating equals equally

EXPERIENCE 7 Mystical or religious experience experience of the supernatural

EVOLUTION 4*c* The origin of new forms of life special creation spontaneous generation or descent with modification from older forms

SIGN 2*a* The first and second imposition of words names signifying things and names signifying names

(2) In the second type the separate phrases of a complex topic represent the phrasing of the same topic or related topics in a manner appropriate to different authors. In some cases the difference between the first and second phrasing is largely verbal it is almost as if the *same* topic were being phrased in parallel ways. In other cases the difference is doctrinal as well as verbal. Here the phrase which precedes and the phrase which follows the colon express more or less distinct topics which are like two closely related doctrinal topics. Clearly it is only in the second case that the complex topic could have been broken into two separate topics.

The following examples illustrate the second type of complex topic (In these illustrations the authority for the doctrine is indicated in parentheses)

JUDGMENT 8*b* Analytic and synthetic judgments (*Kant*) trifling and instructive propositions (*Locke*)

SOUL 2*b* The order connection and interdependence of the parts of the soul (*Plato Aristotle Aquinas*) the id ego and super ego in the structure of the psyche (*Freud*)

SENSE 3*d*(3) The estimative or cogitative power (*Aquinas*) instinctive recognition of the harmful and beneficial (*Darwin Freud*)

QUALITY 2*b* Primary and secondary qualities (*Locke*) the related distinction of proper and common sensibles (*Aristotle*)

Of the foregoing examples JUDGMENT 8*b* illustrates a grammatically complex topic which is logically simple the two doctrinal phrasings are parallel phrasings

of the same topic. On the other hand *Soul*, 2b illustrates a logically complex topic, the two parts of which are distinct topics and represent related doctrines in the theory of soul.

In some instances the topic which precedes the colon is generally phrased while that which follows is the same topic phrased in the language of a particular doctrine. For example

*FAMILY 7d* The emotional impact of family life upon the child, the domestic triangle, the symbolic roles of father and mother (*Freud*)

In some instances what follows the colon is itself divided into subordinate parts by a *semi colon*. These subordinate parts may be related as two parallel doctrinal topics. For example

*SENSE 3c(4)* The distinction between sensation and perception (*James*), the accidental sensible (*Aristotle*), complex ideas of substance (*Locke*)

(3) In the third type the separate phrases of a complex topic represent distinct but related topics. Here the related topics are all phrased in the language of common speech. They do not express the doctrines of particular authors or groups of authors. These topics are all logically as well as grammatically complex. In every case they could have been broken up into separate topics, though in many instances giving them independent status would have necessitated a more explicit or elaborate phrasing of each. The union of these potentially independent topics into a single complex topic is justified by the logical relation between the parts. They are related aspects of a problem or issue, or they are related points in the discussion of a theme which is itself complex. Sometimes the parts are logically coordinate, in which case the topic preceding and the topic following the colon have equal weight, neither restricts the meaning of the other. Sometimes the parts are not coordinate, the one or more topics following the colon are logically subordinate to the one preceding it, in which case the primary topic controls and limits the meaning of the subordinate parts.

The following examples illustrate the third type of complex topic with *coordinate* parts.

*EVOLUTION 5b* Competition in mating, sexual selection

*INFINITY 4b* The infinite divisibility of matter, the issue concerning atoms

*SCIENCE 6b* The place of science in society, the social conditions favorable to the advancement of science

*JUSTICE 9f* Justice between states, the problem of right and might in the making of war and peace

The following examples illustrate the third type of complex topic which has a first or *primary* topic followed by one or more *subordinate* topics.



STATE 2c The source or principle of the state's sovereignty the sovereignty of the prince the sovereignty of the people

SPACE 2c Space as a medium of physical action the ether and action at a distance the phenomena of gravitation radiation and electricity

PHYSICS 4b Experimental discovery inductive generalization from experiment the role of theory or hypothesis in experimentation

MEDICINE 1 The profession of medicine its aims and obligations the relation of physician to patient the place of the physician in society

IN A WHOLE OUTLINE OF TOPICS distinct topics are logically related in two ways they are either coordinate or one is subordinate and the other is its supraordinate This is clearly parallel to the two sorts of relation between the principal parts in a complex topic of the third type It is reasonable therefore to ask why certain topics which are logically coordinate or logically supraordinate and subordinate should be related in these ways as separate topics whereas other topics which have the same logical relationships to one another should be related as the parts of a single complex topic

In differentiating between topics to be given independent status and topics to be united into a single complex topic two principles were followed The first was the principle of comprehensiveness A number of related topics were united into a single complex one when their union seemed to be required for a comprehensive discussion of the matter under consideration The discussion each would have covered if it had been left as an independent topic would have been fragmentary or partial The decision to unite topics was never made in the abstract but always in terms of the content of the great books that is in terms of how their various contributions to the discussion could be most perspicuously organized In short related topics were united to form a complex topic when the coverage of the complex topic more nearly approximated the syntopical ideal than the simple topics would have had each been treated as independent

The second principle involved the ideals of simplicity and unity and thus acted as a check to the first principle If two simple topics were sufficiently comprehensive in their coverage then even though logically related they were given independent status on the ground that simple topics have greater unity than can be achieved by the union of separate topics no matter how closely related The greater the unity of a topic the greater can be the mutual relevance of the contributions to the discussion it covers

This second principle worked automatically when two logically related topics were themselves complex Complex topics were always made independent But when the problem was whether certain simple topics should remain independent or be united the two principles of comprehensiveness and simplicity had to be applied with discretion sometimes in favor of comprehensiveness and sometimes in favor of unity It is impossible to state all the reasons of convenience or

policy which operated in such decisions or to report how particular judgments were made. That such decisions could not always be made with certainty or by rule of thumb is indicated by the fact that during the construction of the Syntopicon many topics which were independent at one stage of the work were later merged and complex topics were frequently broken into a number of simple ones.

The final product of all these working judgments is manifest in the structure of the Outline of Topics for each of the great ideas. The numbering of the topics in each Outline indicates which topics are related as coordinate and which are related as supraordinate and subordinate.<sup>2</sup> But it is not always possible to tell from its grammatical form whether a given topic is simple or complex since as we have seen some grammatically complex topics are logically simple. Nor is it always possible to tell at once whether a logically complex topic is of the second or third type or if of the third type, whether its parts are coordinate or supraordinate and subordinate. Sometimes this will be obvious from the wording or construction of the topic but often it will be discoverable only after the discussion it covers has been read and studied.

A NUMBER OF OTHER POINTS CONCERNING the structure of the Outlines of Topics call for brief comment.

(1) *The relation of supraordinate and subordinate topics.* The subordinate topics usually represent an analytical development of the theme or problem stated in the supraordinate topic under which they appear. They indicate particular points in the general area of discussion defined by the supraordinate topic. As it covers the whole they cover the related parts of the whole. Sometimes however the subordinate topics represent a set of doctrinal alternatives rather than an analytical development of connected points under the supraordinate. Examples of this have already been given (see pp. 1241-1242).

In the first case the supraordinate may function as a topic in its own right in addition to serving as a general heading for subordinates. When it functions as a topic it usually covers a discussion of the whole or general theme whereas the subordinate topics cover discussions of the parts or particular points. In rare instances the supraordinate topic introduces a special point of its own in addition to stating the general theme which the subordinates particularize. But in the second case that is when the subordinate topics state a set of doctrinal alternatives the supraordinate serves merely as a general heading.<sup>3</sup>

\*T p i c s n m b e d s 3 t p i m r y a d o o d i n t w i t h o s n t h A y o f t h e s e m y b e s u p r a d i n t a n w h i s e t p w i l l h d t b o d t t p c s n u m b e r e d b c c c d t h e s e s u b o r d n a t e s w i l l b o o d t w t h o n o t h A y o f t h e s s u b o d t t p c s m y t u b e p d i n t e w t h r e s p e t t o i s o w n s e t o f b o r d t e s i n w h i c a s e t p c w i l l h e u d r t s b o d t t p c s m b e d ( ) ( ) t c P r i m a r y d s c d r y t p c s m a y m a y t h a b o d n a t e s b t t p c s f h d e ( ) ( ) t c h a b o d t e s  
The b o s u m m a r y f t h r l a t f s p r a r d n a n d b o d n a t t p c s a p p l i e s t o t h e r e l a t i o b e t w e e p i m r y a d s e d r y t p c s ( g b e t w t p c 3 a n d t p c s 3 3 b 3 c ) a n d b o t t h e l a t b e t w e e s e c d a r y d t e a r y t p c s ( g b e t w e e t o p 3 b n d t p c s 3 b ( ) 3 b ( ) c )

(2) *The analytical order of the Outline of Topics as a whole* The primary topics (*i.e.* topics 1 ■ 3 etc.) are coordinate in rank but among these coordinates certain kinds of topics normally tend to precede others in the Outline. The discussion usually opens with a consideration of the meaning of the idea or of the various ways in which the idea is defined or conceived. Almost as frequently the opening topic deals with the nature of the thing signified by the idea or proposes the most general theory or theories in which the idea is involved.

The immediately following topics are usually concerned with the principal divisions or classifications of the idea or the thing it signifies (*i.e.* its kinds, types or modes) or with its causes or conditions and with its relation to other ideas or things frequently stated in terms of comparisons or contrasts. In some instances this second group of topics deals with the main problems or issues raised by the idea; in some instances topics of this sort follow the consideration of kinds, causes and relations.

The concluding topics usually deal with the significance of the idea in fields of learning and inquiry other than the field in which the idea is a *principal* term or concept or they may deal with the problems or issues raised by the idea in these other fields. In any case concluding topics of this character cover phases of the discussion which are plainly subsidiary to the matters dealt with in the opening and middle topics.

In chapters on ideas which are susceptible to such discussion the final topic may be concerned with historical considerations or may provide a place for the collection of illustrative materials.

(3) *Variations in the structure of the Outlines of Topics* The statements made in (2) above are intended to describe the normal or typical order of the primary topics. But of the 102 Outlines of Topics no two are exactly alike in structure or order of development. Not all, for example, open or close with topics of the sort indicated; nor do all contain the same variety of intermediate topics or dispose them in the same order.

The Outlines vary in a number of other respects. They differ strikingly in length or number of topics, ranging from the chapter on FATE with only 6 topics to the chapter on MIND with 76 topics. They differ almost as much in their analytical detail or the complexity of their structure: some chapters have only primary topics or very few subordinates, whereas in other chapters almost every primary topic covers a set of subordinates and many of these in turn have subordinate topics of their own. The chapters on FATE or COURAGE, for example, have extremely simple Outlines; those on MIND or STATE, extremely complex ones.

The Outlines also differ in regard to the presence or absence of sets of specialized doctrinal topics. Chapters like PUNISHMENT and EDUCATION, in which the principal term has a common core of meaning throughout the great books, are not embarrassed by semantic difficulties and so do not need to resort to doctrinal topics stated in the language of different authors, whereas chapters like IDEA and

MIND beset by semantic difficulties require topics which specify the various senses in which the principal term is used by different authors or groups of authors

Not only in this last respect but also with regard to their differences in complexity length and the order of their topics the Outlines vary with the character of the great ideas they articulate and analyze As each idea is different from all the rest so is each Outline of Topics Each was constructed and written to fit the idea—not the idea by itself but as it has been treated and discussed in the great books.

THE POINT JUST MADE EXPLAINS WHY these 2987 topics were selected—no more no fewer and no others—and why they were ordered as they appear in the Outlines It is like the explanation why just these 102 terms were chosen as the great ideas Yet if the explanation is understood to mean that the Outlines of Topics were entirely fitted to the great books it is only partly understood This would ignore another factor which shaped the Outlines and ordered the topics even if it did not greatly affect the selection of the individual topics and their phrasing That other factor was the consideration of purely logical criteria in constructing the Outlines To the extent that such logical considerations prevailed the content of the great books was also fitted into the Outlines of Topics

Logical considerations did not always prevail The Outlines of Topics assume the form of analyses but as analyses many of them have logical flaws or deficiencies Certain topics call attention to the absence of others which would be included in a logically rounded analysis of the idea Certain topics seem to be given greater prominence than they would deserve in a logically balanced analysis and certain topics are treated with greater analytical refinement than others which logically deserve the same treatment In addition the actual order of topics often only approximates the ideal analytical order and sometimes even definitely departs from it

These defects both logical and substantive in the Outlines of Topics are all consequences of the same fundamental fact The Outlines do not represent analyses of the great ideas considered abstractly or in themselves It might almost be said that they are not analyses of the ideas at all but rather of the *discussion* of the ideas in the great books That statement however would be too extreme Though the selection of certain topics and the omission of others were wholly determined by the content of the great books the order of the topics selected the choice of the primary topics and the weight or importance given to certain topics were determined partly by the content of the great books and partly by standards of logical precision in the construction of a rounded and balanced analysis

The Outlines of Topics therefore represent an attempt to reconcile the demands of logic with fidelity to the syntopical aim of exhibiting the great conversation in all its strength and weakness The actual process by which the Outlines of Topics were progressively formed over a period of seven years reflects the tension between these two interests even as the final product reflects their joint influence

The first drafts of the Outlines of Topics were largely *a priori* They were logical

analyses of the ideas formulated prior to any effort to use the topics as headings for collecting references to the great books. Yet even these first drafts were not entirely *a priori*—they were constructed in the light of considerable knowledge of the tradition of western thought. To this extent they were *a posteriori*—that is, empirical or historical rather than purely logical.

These original drafts were repeatedly revised in the effort to use each topic as a heading for a segment of the discussion. Topics were discarded, new topics were added, certain topics were merged and others were subdivided. A very large proportion of the topics were rephrased again and again, and the Outlines as wholes were reshaped whenever substantive alterations in their component parts necessitated logical reorganization or refinement. In this process almost all the Outlines went through many drafts. At the same time each Outline was scrutinized as a whole for its intelligibility as an articulation and its rationality as an organization of the whole discussion of a great idea.

The absence of certain concepts of contemporary importance from the list of the great ideas can be interpreted to mean that those concepts have only recently risen to a prominence they do not have in the tradition as a whole. The absence of certain topics from the Outlines can be similarly interpreted. The omitted topics cover discussions of recent origin or discussions which, though they may have antecedents in an earlier day, do not receive as much attention in the great books as they currently attract. In marking the points on which the great books are silent, these absent topics point to contributions to the great conversation made in our time, as well as to *lacunae* in our intellectual heritage.

On the other hand, the Outlines contain a number of topics which elicit from the great books contributions that are slight in number and variety. In certain instances, the presence of these topics reflects the effort to make the Outlines as analytically rounded and balanced as the content of the books would permit. But in other cases, the retention of topics in spite of the slightness of the discussion they cover serves to record the antecedents in the tradition of themes or problems which have become dominant only in our own day.

ONE FINAL POINT ABOUT THE OUTLINES REMAINS TO BE MADE. They often contain topics which resemble one another in the matters they propose for discussion. This is seldom if ever true of the primary topics. The overlapping occurs mainly among the subordinates, and in the interest of analytical refinement or balance. In the analytical breakdown of two primary topics, similar points are often logically relevant. In consequence, similar topics will appear in the two sets of subordinates. If in order to avoid the duplication, one of these subordinate topics had been omitted, one of the supraordinates would have been left incompletely analyzed and articulated.

For example, in the chapter on LAW, under the general heading of topic 4—The natural law—one of the subordinates is topic 4f—The relation of natural law to civil or municipal law, the state of nature and the regulations of the civil state. In the same chapter, under the general heading of topic 7—Law and the

state—one of the subordinates is topic 7c. The priority of natural to civil law, the inviolability or inalienability of natural rights. The two topics are by no means identical, yet they do have much in common. Each proposes a theme that is logically appropriate in the analysis of the general heading under which it falls. The decision to include both represents the judgment that the inclusion of partially overlapping topics is a much less serious fault than the logical defect which would result from the exclusion of one of them in order to avoid duplication.

The policy which permitted overlapping topics in the same chapter for reasons of analytical completeness had even greater justification in the case of different chapters. The great ideas are so related that it would be impossible to construct analytically adequate Outlines of Topics without some topics under one idea resembling some topics under other ideas. In the same chapter the resemblance between topics is never more than a similarity—a partial overlapping. But between chapters the overlapping may be almost complete. The topics may be identical except for a slight difference in phrasing. For example, the chapter on LAW necessarily includes topic 7b—The supremacy of law as the principle of political freedom—under the general heading of topic 7, Law and the state. But there is an equal necessity for including in the chapter on LIBERTY topic 1d—The supremacy of law as a condition of political liberty—under the general heading of topic 1: Natural freedom and political liberty.

Such identical topics are the exception rather than the rule. For the most part the resemblance between topics of different chapters goes no further than similarity. But there is as much reason in the interest of analytical completeness for the partially overlapping topics as for the identical ones. The chapter on CITIZEN necessarily contains a discussion of The qualifications for citizenship, extent of suffrage (CITIZEN 3); this is partially duplicated by a discussion that is unavoidable in the chapter on CONSTITUTION—The justice of different constitutions, the extent and character of citizenship under each (CONSTITUTION 5a). Or to take another example, the discussion of philosophy necessarily includes the consideration of The relation of philosophy to mathematics (PHILOSOPHY 1b) which approaches that problem somewhat differently from the inevitable consideration of a similar theme in the discussion of mathematics—The service of mathematics to dialectic and philosophy, its place in liberal education (MATHEMATICS 1b).

Between any one of the 102 chapters and all the others, the number of overlapping topics—either identical or similar in scope—may at first appear large but it will seem less remarkable as one realizes the interdependence of the great ideas. Far from concealing the overlapping of topics as if it were a blemish, the Syntopicon calls attention to it, precisely because it points out the interconnection of the great ideas. This is one of the functions performed by the Cross References in each chapter. As the Inventory of Terms shows the interrelation of the great ideas by noting the appearance of the same term in topics of various chapters, so the Cross References show the interrelation of the great ideas by

noting for the topics of one chapter the topics in other chapters with which they have some affinity

THE CROSS REFERENCES POINT OUT TWO DIFFERENT KINDS of affinity between the topics of one chapter and the topics in others. One sort—the affinity of similar topics—has already been discussed. The other sort of affinity exists between a topic in one chapter and topics in other chapters that deal with related, not similar, matters. The latter provide contextual discussion of matters bordering on the theme proposed by the first.

For example, the chapter on FAMILY contains a discussion of Eugenics, control of breeding, birth control (FAMILY 6b); the chapter on EVOLUTION goes more fully into the problems of genetics and heredity and contains two sets of topics which provide a general context for the consideration of eugenics in the chapter on FAMILY. They are the topics in EVOLUTION headed by 2 Genetic variation in the course of generations and 3 The process of heredity. The Cross References in the chapter on FAMILY therefore call attention to the topics in EVOLUTION in the following manner:

*For A more general consideration of the problems of heredity see  
EVOLUTION 2-3c*

The Cross References also perform one other service. Sometimes a topic or group of topics is omitted from a particular chapter because, while it has relevance to the idea of that chapter, it is not indispensable to a rounded or balanced analysis of that idea. However, this topic or group of topics may be necessarily involved in the analysis of some other idea. The Cross References call attention to such supplementary topics.

For example, the chapter on POETRY might have considered the nature of the fine arts, of which poetry is one. But the Outline of Topics for POETRY opens with a consideration of The nature of poetry, its distinction from other arts. To supplement this with a discussion of the general theory of the fine arts presupposed by the distinction of poetry from other arts, the Cross References contain the following entry:

*For The consideration of the fine arts in general see ART 7a*

Often there is only a shadowy difference between the cross references to such supplementary topics and the cross references to related or contextual topics. It rests largely on a sense of the fitness of a particular topic for the Outline of Topics of a particular chapter. If the topics cited by the Cross References might have been included in this chapter but were not necessary, they can be regarded as supplementary; if on the other hand they would have been adventitious or at best peripheral in this chapter, they can be regarded as contextual. In contrast, there is a sharp difference between both these types of cross references and the third type, which cites similar or identical topics in this and other chapters—topics which are necessary to all the chapters concerned.





serve to trace the intricate network of relationships among the 102 great ideas. Each does this in its own way. It should be added that both the Cross References and the Inventory of Terms also serve as instruments for finding particular topics among the 3000 topics in the 102 chapters. The Cross References do this by listing the topics of other chapters according to their relevance or similarity to those of a particular chapter. Hence the reader while using or studying a particular chapter is informed of the location of germane topics in other chapters. The Inventory of Terms lists the fundamentally significant words in each of the topics and in addition the terms which are implied by its meaning. Each term is followed by a list of chapters in which related or similar topics appear.

### III THE INTRODUCTIONS

IN THE STRUCTURE OF EACH CHAPTER the Outline of Topics follows the Introduction. This essay might have been expected therefore to deal with the Introductions before it discussed the Outlines of Topics.

There are two reasons for reversing the expected order. First the topics are in a sense integral parts of the great ideas and therefore the examination of the Outlines as analyses of the ideas naturally follows the consideration of the ideas themselves. Second the topics state the themes, problems and issues with which the Introductions deal. The Introduction to each of the great ideas is in part at least a commentary on its topics. It is not out of order therefore to examine the commentary after considering the topics commented on.

But if this is the proper order then it would seem that it might have been better in constructing the Syntopicon to have placed the Outline of Topics first in each chapter with the Introduction following rather than preceding it. But the fact is that the Introductions are *only in part* a commentary on the topics. They also deal with the idea as a whole in such a way as to be preparatory for reading the topics. They are genuinely introductions to the topics as well as commentaries on them.

The reciprocal illumination of each by the other will be better understood in terms of the purposes the Introductions are intended to serve. It will then become clear that the advantage of reading the Outlines of Topics before the Introductions is almost equal to the advantage of reading the Introductions first.

LIKE THE OUTLINES OF TOPICS the Introductions vary from chapter to chapter—not so much in length as in their method of exposition. They do not all begin or end in the same way nor do they uniformly treat the same matters or proceed in the same order.

The way in which each Introduction deals with a great idea corresponds to the characteristic difference of that idea from all the others. The ideas differ in four respects and the Introductions differ accordingly. Each idea has a unique structure. It also has a unique history. The character and intensity of its verbal difficulties are often peculiar to itself. The problems and issues it has engendered are different in origin and in the possibilities of their resolution.

Nevertheless all the Introductions were conceived and written to perform a common task. They were intended to serve the same fourfold purpose corresponding to the four respects in which the ideas differ. The Introductions attempt to treat each idea *semantically*, *historically*, *an lytically* and *dialectically*.

(1) *The semantic aim* It has already been pointed out that most of the names of the great ideas have a range of meanings. They have been used by the authors of the great books in different senses and many of them have in addition meanings of recent origin or popularity. This is true not only of the principal term in each chapter but also of some of the subordinate terms which appear in the topics. Often the meaning of the principal term is affected by the meaning of a subordinate term connected with it in the statement of a topic.

The semantic aim of the Introductions is to record the various meanings of the words which have been used to name the great ideas and of the other words which have been used traditionally and currently in discussing the great ideas. The Introductions seldom try to do this exhaustively. They aim at verbal clarification only where necessary—in order to prevent real agreements from being obscured by differences in language or to discover real disagreements in thought between men who so far as their language goes appear to be saying the same or at least compatible things.

Like the other parts of the Syntopicon the Introductions have as their ultimate aim the re-enactment of the great conversation. Each Introduction tries to create the discussion of a great idea as though the authors contributing to that discussion were engaged in conversation about its major topics—and almost as though they were contemporaries confronting each other in actual discourse rather than dispersed across thirty centuries. The semantic aim of the Introductions is to clarify the meanings of the words they use so that they can be heard talking relevantly to one another. The Introductions succeed to the extent that they suggest how the great minds of the western tradition exist together in a single universe of discourse.

(2) *Th his orical aim* To collapse thirty centuries of imagination and thought into a single historical moment would seem to be unhistorical or worse anti-historical. Yet the Introductions have just been described as doing exactly this since they treat the authors of the great books as if they were contemporaries and use the present tense in reporting their discussion of ideas.

Mill and Aristotle for example may be reported as taking one side of an issue on which they are opposed by Plato and Hobbes. Lucretius may be said to be more in agreement with Freud on certain matters than he is with anyone in antiquity. As far as possible the authors are associated with one another in terms of their thought not their times. They are opposed to one another in the same way. The centuries can be as readily bridged by genuine agreements as they can be divided by disagreements apparent or genuine. Neither the agreement nor the disagreement is a necessary function of simultaneity or succession in time.

Yet sometimes a certain point of view is characteristic of a period or phase of western civilization. Sometimes the political, economic and cultural conditions of a time are more than the background of thinking or the environment to which the thought refers: they are conditions of the thought itself and therefore of its intelligibility. It is unquestionable that some men originate ideas which others borrow and often change. There is little doubt that the thought of one whole period influences the thought of a later period, either to react against it or to alter it for assimilation. Certainly then, the succession of the centuries, the location of minds in time, the relation of thought and imagery to the culture of a period, the influence of one mind upon another and one period upon another—certainly all these things are significant features of the great conversation as it develops in time. The very word tradition connotes a passing from age to age—both as heritage and an inheritance. To consider the tradition of western thought is therefore to deal with the history of ideas.

Both sides of the picture contain a portion of the truth—the temporal and the non-temporal, the historical and the unhistorical. Thought transcends time to a certain extent, and to a certain extent time conditions thought. Ideas have a career in time and therefore a history, but they also have an inner logic which transcends history. To some extent, therefore, all minds dealing with the same ideas are contemporary: they are together in the same logical, if not historical, moment by virtue of their agreements and disagreements. To deny this is to commit the error of historicism. But in some measure minds dealing with the same ideas cannot deal with them in the same way at different historical moments. To neglect or ignore this fact is to commit an opposite error which might be labelled transcendentalism.

The Introductions try to avoid the fallacies of both extremes by combining the historical with the logical treatment of ideas. But they do not try to do equal justice in both aspects of the matter, and in consequence do not preserve a perfect balance between the two approaches. The primary aim of the Introductions is not historical, as it is not semantic. It is dialectical. The Introductions do not carry verbal clarification further than is necessary to prevent language from obscuring the logical realities—the issues, the agreements, the disagreements and the arguments. For the same reason, the Introductions do not engage in the history of ideas for its own sake. They remain unhistorical wherever possible and become historical only to indicate places where the history of ideas is itself part of the dialectic of ideas.

Not all of the great ideas are involved in an historical dialectic to the same extent. At one extreme, with ideas like BEAUTY, CHANCE, COURAGE, DEFINITION, EDUCATION, EMOTION, HAPPINESS, INFINITY, JUSTICE, KNOWLEDGE, LOVE, NATURE, OPINION, PLEASURE AND PAIN, PUNISHMENT, SENSE and TYRANNY, the discussion seems to be comparatively unaffected by the historical location of the minds engaged in it. It completes almost the same circle of logical development in every period: the focus does not change from time to time, the discussion as a whole does not move irreversibly along the line of history. The Introductions to

such chapters therefore can be largely unhistorical in their dialectical effort to state the main features of the discussion

At the other extreme with such ideas as ANGEL ASTRONOMY CONSTITUTION DEMOCRACY ELEMENT EVOLUTION FAMILY GOD IMMORTALITY LABOR LOGIC MATHEMATICS MECHANICS PHILOSOPHY PROGRESS PROPHECY RELIGION SIN THEOLOGY WAR AND PEACE and WEALTH the discussion seems to be seriously affected by intellectual and cultural differences between different epochs. The whole conversation shifts its ground and changes its focus as it passes in the spheres of politics economics and the sciences from ancient to modern times and in the spheres of religion and theology from pagan antiquity to the Christian Middle Ages or from mediaeval Christendom to the increasingly secular culture of the modern epoch. Its starting points are not the same and its logical development takes different directions as the whole discussion develops historically. Hence the Introductions to such chapters must be historical in treating the pivotal points of the dialectic.

To the extent to which the Introductions treat the great ideas historically they trace their development in a number of ways. They may call attention on the semantic side to changes in the meaning of the basic words from period to period. On the analytical side they frequently note which parts of the idea—which of its topics or themes—occupied the center of discussion at one time but received little or no attention at another. Above all in relation to the dialectic of the discussion they try to suggest the actual course of the great conversation. By observing its continuities and discontinuities especially the latter they throw historical light on the failures of the dialectic—the failure of minds to meet or join issue or as between the thought of one period and that of another the weakening of relevance to the breaking point.

If on the whole the Introductions lean more to the dialectic than to the history of the great ideas the balance is somewhat restored by the fact that under each topic the references to the great books are arranged in historical order. The reader who follows the discussion by reading the books or passages in the order in which they are cited will be able to discover for himself many historical collocations and sequences which the Introductions fail to note where they are only suggested or briefly touched on in the Introductions they are amply documented in the References.

Yet even here the complementary point remains to be made. Under each topic the references are set forth in historical order. But the books and passages cited under one topic would not be there unless they all satisfied the requirement of relevance. They can be relevant to one another only if they are talking about the same thing. Such relevance signifies that all the authors belong to the same tradition or in other words that they all participate in the same culture or civilization no matter how it may be subdivided into epochs or phases.

From the point of view of world culture which must remain unformed so long as the world remains divided into a number of distinct cultures what we call the culture of the west is unitary in spite of all the separate strands or segments we

can find in it. From the point of view of world history, which in a strict sense cannot begin until a world culture is formed, the thirty centuries of imagination and thought represented in the great books tend to become a single time, even as the books tend to belong to a single tradition and culture. By taking the point of view of future world history, we can imagine how the whole tradition of western culture may some day appear as a single parochial episode. In a sense the Introductions are making this imaginary construction when they present the great conversation in the present tense, as if it were taking place among contemporaries.

(3) *The analytical aim.* The Outlines of Topics present analyses of the great ideas. The Introductions perform an analytical function in commenting on the structure of the ideas as set forth in the Outlines.

The Outlines do not explain themselves; for the most part, the order and subordination of the topics do not need explanation. But occasionally the reason for including or giving special prominence to a certain topic or group of topics may not be immediately obvious, especially if the matters dealt with are not familiar to contemporary thought. The converse is also true. Occasionally, the absence of topics which are currently subjects of great interest may deserve a word of explanation. The Introductions try to throw light on both these aspects of the Outlines.

The major parts of the discussion of a great idea are the fundamental problems and issues in which that idea is involved. In commenting on these, the Introductions usually adopt the topical statement of them in the Outlines. Though there is seldom a perfect correspondence between the content of the Introductions and that of the Outlines, there is a general conformity between the main points treated in each. Their order is not necessarily the same, for a discursive treatment of related problems and issues usually demands an order markedly different from that suitable to a topical outline.

In many chapters, topics will be found in the Outline which are not considered in the Introduction. There are two reasons for this. First, the Outline of Topics for a particular idea usually raises more points of importance or interest than can be treated in a short essay. Therefore, some must be ignored or mentioned only in passing. Second, the Outline in a particular chapter frequently includes topics which are similar to or identical with topics in other chapters. Hence, to avoid repetition and undue length, the Introduction to a particular chapter may leave to another chapter's Introduction the treatment of a subject common to both.

Wherever possible, the Introductions notify the reader that a given topic receives attention or ampler treatment in the Introductions to other chapters. Just as the Cross References for a given chapter indicate the relation of its topics to those of other chapters, so the Introduction supplies its own cross references to other Introductions in which related matters are discussed. In doing this, the Introductions not only indicate, but often try to illuminate, the interconnection of the great ideas. In addition to examining the structure of the idea with which it deals, it is part of the analytical aim of each Introduction to place this idea in

the larger structure of the whole set of ideas and especially in the constellation of closely related ideas to which it belongs

In performing their function as commentaries on the Outlines of Topics the Introductions usually pay special attention to the groups of doctrinal topics which set forth the positions or views of different authors in their own language. The fact that doctrinal topics could not be avoided in the Outline for a particular chapter indicates both semantic and analytical difficulties which the mere statement of doctrinal topics seldom solves completely. Wherever possible the Introductions attempt to deal with these difficulties discursively and to clarify points that the elliptical statement of the topics necessarily leaves obscure. But the groups of doctrinal topics call for more than clarification. They usually represent a profound difference of opinion or a many sided controversy in the tradition of the great books. In treating such matters the Introductions go beyond their semantic and analytical functions to the dialectical which is their primary aim.

(4) *The dialectical aim.* The Introductions attempt to report some of the major issues or basic intellectual oppositions in the sphere of each of the great ideas. That this is their primary aim does not imply that disagreement is the dominant feature of the intellectual tradition. On the contrary, agreement in almost every case accompanies disagreement—that is, on most of the great issues the opinions or views which represent opposite sides of the dispute are shared by several authors, often by many. Seldom do we find a solitary exponent of a controversial position.

The great issues align men side by side as well as range them against one another. If in the rare case disagreement does not carry with it a proportionate amount of agreement, that disproportion is balanced by the fact that on a small number of fundamental questions there seems to be no disagreement among the authors of the great books. On the whole, there is as much agreement as disagreement in the tradition of western thought—agreement across the centuries as well as among contemporaries and disagreement likewise.

The primacy of the dialectical aim of the Introductions follows from the primacy of the mind's concern with truth. The other aims represent preparatory considerations—how language has been used to express thought, how thought has been affected by historic circumstances, the ground thought has covered in dealing with the great ideas. All these preparations lead to the question they leave unanswered: Where does the truth lie in all the thinking that has been done on each of the great ideas? Where is thought true and where is it false?

The dialectical aim of the Introductions is primary because it is motivated by this fundamental consideration. In their concern with agreements and disagreements the Introductions approach the question of truth and falsity. The agreement of men about the nature of things in any field of inquiry establishes some presumption of the truth of the opinions they commonly hold. Their disagreement establishes the counter presumption—that none of the opinions in conflict whether shared or not, may be wholly true. Among conflicting opinions one may



They try to look at all sides and take no sides. Of course they fail to achieve so exacting an ideal. They may succeed as the topics do in taking no sides. Just as the topics state subjects on which there can be different opinions without affirming or denying any of the possible opinions, so the Introductions try to present the issues without prejudice to any partisan point of view and treat conflicting positions impartially. But it is easier to take no sides than to look at all sides. In this latter respect the Introductions undoubtedly fail.

To begin with, it is never possible to say that *all* possible sides of an important issue have been examined. They can never be exhaustively enumerated. The answers and arguments to be found in the great books are always weighty and significant and are usually a fair sampling of the best human thought on the subject, but they never exhaust the possibilities of thought. Secondly, it is seldom possible for the Introductions, within the limits of a short essay, to examine even all the answers and arguments in the great books, and even if some selection can be justified on the ground that it chooses the most significant opinions or the principal arguments, it still remains a selection. Finally, even those positions and arguments selected for examination and summary may not all be viewed with an equally open mind or presented in an equally favorable light. Perfect dialectical objectivity is not guaranteed by avoiding explicit judgments on the truth of *conflicting opinions*. Partiality can intrude itself in a variety of subtler ways—by the manner in which arguments are summarized, by shades of emphasis and neglect, by the tone of a question or the color of a passing remark, and by the order in which the various positions are presented.

In order to avoid some of these faults, or at least to minimize their impairment of dialectical objectivity, the Introductions resort to an obvious device and use it as much as possible. They report the opinion or argument of an author in his own language, substituting quotation for summary. Quotations may of course be wrenched out of context, and their sense may be falsified by the way in which they are quoted. But since each introductory essay is associated with references to the great books, citing fully all the passages from which the quotations are taken (and many more besides, which provide the rest of the context), the reader of the Introductions is protected against such discrepancies as may occur. This device of quotation provides the Introductions with a safeguard against the greater danger of summarization. In addition, it gives them the flavor of the great conversation itself. It offers the reader a sample of the wealth of material cited in the References.

Only the writer's firm intention to avoid them can be relied on to prevent other sorts of defection from dialectical objectivity. Dialectical objectivity demands a deliberate effort to balance question against question, to forego any comment that might be prejudicial, to check any tendency toward over- or under-emphasis. The reader can judge for himself the extent to which such effort has been successful in the writing of the Introductions. On all these counts the measure of dialectical objectivity achieved should be evident. But the reader cannot easily judge its achievement on the one remaining count—the order of discussion in the Introductions.



For example many Introductions end with the exposition of a particular author's theory of a controversial subject and sometimes with a quotation unaccompanied by comment. Does this signify approval of the author's position on the question? In presenting a number of conflicting positions the Introductions must necessarily expound them in some order. Does the theory coming last in the series have the favored place or does the first? The assumption behind these questions (which arise naturally enough) is that the writer of the Introductions may have intellectual convictions which influence his ordering of the discussion even though he does not allow himself to express them explicitly in the form of judgments about what is true or false.

That assumption is partly correct. No mature mind can be without convictions. But they do not necessarily constitute an insuperable obstacle to maintaining the dialectical detachment sought for in the Introductions. If the writer can refrain from expressing his own judgment about what is true and false he can also, though perhaps with more difficulty, exercise sufficient caution to prevent his convictions from influencing the order in which he treats a variety of opinions, one of which he may hold as his own. He can do this by making certain that the views he himself favors do not uniformly occupy the same place in the order of discussion—whether that be first or last.

A deliberate effort was made to avoid uniformity in the order of treatment. The result of this attempt cannot be judged by examining a single Introduction but by taking the 100 Introductions as a whole the reader can observe whether uniformity has been avoided.

The reader's final judgment on the attainment of their dialectical aim can be made in terms of a test much more relevant than any examination of details of method or order in the Introductions. If a dialectical balance has been preserved the reader should be left with the major questions to answer for himself. He should be left with the major issues unresolved unless he has resolved them in his own mind. If he has any opinion as to where the truth lies it should be his own, formed by him in the light of his reading, not pre-formed for him in any way. From the Introductions themselves he should derive only three types of opinion: (1) that for each of the great ideas these are *some* of the questions or issues worth considering; (2) that for each of the questions or issues mentioned these are *some* of the answers or solutions; and (3) that some of the questions are so connected that answering one of them in a certain way partly determines how others must be answered.

If the Introductions do more than this they overstep their dialectical limits for more than this would be to declare one answer true and another false. But if they do this much, neither more nor less, then they neither exceed their bounds nor fall short of their mark. And if with respect to the three types of opinion they do try to assert the Introductions win the reader's acceptance, then they have for him as much dialectical truth as can be attained.

IT SEEMS APPROPRIATE AT THIS POINT to say a word about the writing of the Introductions.

They were written by the Editor in Chief of *The Great Ideas*. In a few cases preliminary drafts of the essays were prepared by the General Editor. Drafts of all the essays were read and criticized by the Editor in Chief of *Great Books of the Western World* by editors on the staff of the Syntopicon and by other persons who generously accepted the task of reading and commenting on them.

The suggestions for revision from all these sources were collated to guide the writing of a final draft. In this, as in most collaborative efforts, the final responsibility for accepting or rejecting suggestions rested with one person. The Editor in Chief of *The Great Ideas* assumed that final responsibility of authorship. To some degree then, the Introductions as published bear the authority of a group of minds working in collaboration, but they do not pretend to be that anomalous thing—a composite literary production.

In their report of the traditional discussion of the great ideas, the Introductions reflect their author's reading of the great books. They also represent some knowledge of the books listed in the Additional Readings; it should not be necessary to say that no one—certainly no one responsible for the content of the Introductions—has read all this literature. As for the great books, no one can claim to have read them all equally well, or to have read all of them systematically and carefully for their relevance to each of the 102 great ideas. That kind of reading was hardly feasible before the Syntopicon was constructed. The Introductions were being written at the same time that the references to the great books were being compiled, topic by topic, idea after idea.

One fact about the writing of the Introductions deserves repetition and emphasis. They were conceived as parts of the Syntopicon and constructed in relation to the other parts, especially the Outlines of Topics and the References. According to this conception of their purpose, they were written not for scholars or specialists, but for the general reader—or more specifically for future readers of the great books.

This last point calls attention to one of the difficulties faced in writing the Introductions. They could have and would have been written quite differently had they been intended for an audience of persons already familiar with the great books. Should such persons read the Introductions, they may need to be reminded of this fact. Some readers may have devoted considerable time to the study of a particular author or group of authors, as measured by the depth of their own scholarship; the Introductions may appear superficial or inadequate in the treatment of those authors. Other readers, as a result of their own scientific or philosophical work, may hold certain of the theories discussed in the Introductions, as measured by the complexity of their own speculative involvement; the Introductions may appear to present imperfect or oversimplified versions of these doctrines. Such persons are asked to remember that the Introductions try to give some account of *all*, not just a few, of the authors of the great books, and to present, for each of the great ideas, a dialectical treatment of conflicting opinions, not a scholarly exposition of particular doctrines considered in isolation. This they try to do in a manner suited to the layman, not the specialist—for future readers of the great books, not past masters of them.

From the standpoint of the lay reader the Introductions may have defects of an opposite sort. The effort to make them intelligible to a person who has not read the great books—or certainly not studied them—involved a constant struggle against space limitations. It was often necessary to use certain technical words or phrases which have an established traditional meaning without being able to explain their significance in readily understandable terms. For example, for brevity of reference it was often necessary to use such expressions as Kant's categorical imperative, Hegel's Absolute Idea, Spinoza's infinite modes, Freud's repression, Newton's evanescent quantity, or Ptolemy's epicycles, but it was not always possible at the point at which they were used to explain their meaning.

When the Introductions are obscure or cryptic for this reason a remedy is available for the lay reader. The language of the Introductions is keyed to that of the topics. The reader can therefore go to the topic which contains the difficult word or phrase, under it he will find references to the book in which that expression is amply explained by the author who made it part of his technical vocabulary. In some instances the difficult expression does not appear in the language of the topics, but as used in the Introductions it may be associated with the name of a particular author. The remedy is still to go to the References, find the citations of that author's work, and look there for its meaning.

THE BREVITY OF THE INTRODUCTIONS makes them dependent upon a reading of the great books, under the guidance of the topics and references, for the amplification of meanings. This is also true of many of the concepts and theories they deal with. Brevity of treatment, with or without quotations from authors, will leave the reader in need of fuller explanation. For the reader who is left perplexed by the Introductions, the References provide a direct route to the better understanding he seeks.

The brevity of the Introductions even helps to fulfill the primary purpose of the Syntopicon as a whole, which is to serve as a stimulus and a guide to reading the great books. Reading the Introductions can never be a substitute for reading the books. The Introductions were designed to create and leave unsatisfied an appetite for understanding. The quotations from the great books which they contain are always as the volume of the References indicates a small proportion of the quotable material. The topics with which they deal at any length are always a small proportion of the topics under the Outline for each idea.

The Introductions are thus at best intimations of the great conversation. They are in short introductions and in addition to all their other aims they have a seductive aim which succeeds whenever the reader is prompted by perplexity, doubt, curiosity, or wonder to go from the Introductions to the References and from them to the great books. Since the Introductions usually employ the language of the topics, the reader is seldom left in doubt as to where he can find the additional material he seeks.

There is one other deficiency in the Introductions which results from their brevity, and it too has its remedy. The interconnection of the great ideas is such

that sometimes the same points—the same problems issues concepts or theories—deserve treatment in the Introductions to more than one chapter. Since the Introductions appear in the alphabetical order of the ideas each had to be written so that it could be read as an autonomous essay. This consideration made desirable the repetition of certain matters in two or more Introductions but the amount of repetition was sharply limited by the requirement of brevity.

In consequence certain matters highly relevant to the dialectic of a particular idea were reserved for treatment in the Introductions to other ideas. Wherever this occurs the Introductions cite the other chapters in which these points are more amply treated. Thus though any particular Introduction may be obscure because it does not fully explain all the notions or doctrines to which it alludes other Introductions provide the reader with a remedy.

As for the great ideas so also for the Introductions in the chapters on them the alphabetical order conceals the intricate and highly significant pattern of their interdependence or co implication. This order permits the reader to begin with any Introduction or to read any one without first having to read others. But though the Introductions were designed for such use they were also written with an eye to the total pattern of the great ideas. It is part of their aim to take the reader wherever he starts and lead him from one idea to another along paths that crisscrossing in all directions cover the whole circle of ideas.

#### IV THE REFERENCES

THE REFERENCES WHICH FORM THE CENTRAL PART OF EACH CHAPTER are the heart of the Syntopicon. More than either the Introductions or the Outlines of Topics the References represent a reading of the great books. Quite literally each of the 163 000 references enumerated under the 2987 topics represents an examination of a book in whole or part for its relevance to the topic under which the reference is given.

The reading necessary to record the 163 000 references could hardly be done by one man or even a small group of men within so short a time as seven years. The great books could be read through once in that time but a first reading would obviously be inadequate to the task of discovering the contribution each makes to the thousands of themes which comprise the length and breadth of the great conversation. Nor could the situation be very much improved simply by a second or third reading. The References represent a different type of reading.

To use a comparison which may help to explain the difference the ordinary reading of a great book is like photographing a richly complex scene taking it in as a whole by seeing the picture from a certain distance whereas the kind of reading which produced the References is like a close up viewing one detail in that scene and making it stand out as clearly as possible. As a photographic close up presupposes the picture of the whole as background so reading with a special focus presupposes the ordinary perspective in reading. In terms of this analogy each of the 2987 topics is a special focus on the 443 works comprising *Great Books of the Western World* and in addition the 77 books of the Bible.

It might almost be said that to produce the References this body of literature had to be read with a special focus as many times as a real difference in the topics required a change of focus. At least that is the effect the References create for the user of the Syntopicon. The references under each topic provide him with a special set of readings in the great books produced by reading *through* them with a particular theme or question in mind.

The necessity of employing a fairly large staff of readers to create the references for a syntopical reading of the great books and the Bible combined with inevitable changes in personnel over a period of seven years raised the problem of achieving a unified result from the collaboration of so many minds. If for example two readers understood the same topic differently they would not be reading the books from the same point of view when they selected passages to be cited in the references under that topic. With a staff of thirty to forty readers the possibility and extent of such discrepancies were multiplied many times. The difficulty of obtaining a unified result was aggravated by other circumstances such as the number of books which had to be read, the different kinds of reading demanded by their variety, and the number of topics which had to be considered in relation to one another.

Just as the Introductions have unity because they were written by one person so ideally the References ought to have a comparable unity—as if so to speak all the reading they represent had been done by one man yet safeguarded against the blindnesses and biases of any individual mind by having that one reader consult with many others in order to weigh and verify his interpretation of the texts.

Under the exigencies of time and in terms of inescapable human limitations the unity of the References could not be achieved in that way. To explain how a sufficiently unified result was obtained from the collaboration of so many minds and to throw light on the problems faced in compiling the References it seems useful to relate briefly how the work was done.

THE WORK OF COMPILING THE REFERENCES was accomplished in three distinct phases: a preliminary or exploratory phase, a middle period devoted to systematic reading and discussion, and a final phase in which the references were critically reviewed and edited.

At the beginning of the work the staff of readers cited books or passages for their relevance to one or more of the great ideas. The list of ideas was still tentative and each idea was treated as a heading by itself without subdivision into topics. Each member of the editorial staff was assigned a particular group of authors and was responsible for discovering their contribution to the discussion of all the ideas.

The most important result of this initial exploratory phase was the realization of the need for a topical analysis of each of the main ideas. The second and more systematic phase of the work began when the list of 102 ideas was finally determined and a topical analysis of each idea had been drafted. In their first formulation the topics reflected the reading done in the previous period but they also

required that reading to be re done for the sake of testing the topics and improving the references

In the concomitant development of the Outlines of Topics and the References refinements in syntopical analysis and syntopical reading had to keep pace with one another. At each stage the topics directed the course of syntopical reading and syntopical reading tested the topics for their accuracy and adequacy as statements of the themes discussed in the great books. Each stage involved a renewed examination of the books in the light of the topics and an adjustment of the topics to the discoveries of research. Topics were discarded, new ones were added, topics were rephrased or merged with one another. The next stage of reading had to respond to all the changes in topics caused by the previous stage. This meant a systematic examination of the references which had been assembled at the previous stage and a continuing search for new references to ensure an adequate treatment of the books under the topics as then formulated.

It was crucial to the idea of the Syntopicon that the editorial staff share a common understanding of the topics and the books. But the division of labor which had been adopted tended to make the individual reader a specialist in handling a particular group of authors and works. Each member of the editorial staff developed special knowledge of certain books, special skill in reading them syntopically and special articulateness in calling attention to the problems raised by his authors and books.

Regular staff conferences were instituted to overcome the disadvantages of such specialization as well as to take advantage of its benefits. Conducted by the Editor in Chief with assistance from the General Editor, the conferences aimed to produce a community of understanding by considering the meaning of each idea and its topics in relation to the content of the great books as a whole. They also provided an opportunity for individual staff members to criticize the Outlines of Topics from the vantage point of a concentrated syntopical reading of a few assigned authors and to suggest changes in the topics to accommodate the thought or language of those authors.

The proposed changes had to be considered by other staff members for their effect upon the syntopical treatment of other authors. Any change that was finally adopted had consequences for the work of the entire staff. It was the task of the Editor in Chief to harmonize the different, often conflicting demands made on the developing structure of the Syntopicon by the content and intellectual style of particular authors and to balance the special interests urged by individual staff members against the general aim of making the Syntopicon reflect the content of the great books as a whole.<sup>6</sup>

T ma tai th t dyf w fw k, p ra d fw kd and ha g m d d t  
mak thes re d cu tly aialbe f in pe t by th ed al taff was orna l cal d  
taku g Th t f thes l hors ca best be d ca ed by th f t that d g th mar ph se f the  
w k th l l taff d d t ppo t d th ed t al ff tw tw th tunes l g th  
th ed t l t ff F th m h t ks b pe f m dw mply l cal hy l d  
d bl d rst d g f th m al be gha dled W t t f th t llge t dur t d g  
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S pervisors rsm d transmuting th mat als from ne t g t th mght h as ed be  
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The system of specialization during the first two phases of the work necessitated a complete re-examination of the references in order to achieve greater unity and coherence than could be attained simply through staff conferences. To secure these results the final re-checking of the references had to be organized in a way radically different from the way in which the references had been originally accumulated and checked.

Prior to the last phase of the work no one of the 102 chapters had as a whole been scrutinized in all details nor had any one person examined for the topics of each chapter all the references to the great books. Where before each member of the editorial staff had been responsible for finding and judging passages in a small number of books in relation to all ideas and topics it was now necessary for some one person to be responsible for examining and judging all the passages cited in a single chapter. In no other way could the coherence of the references under each topic be assured. In no other way could a uniform standard of comprehensiveness and intelligibility be maintained for all the topics in a given chapter.

Under the direction of the Editor in Chief the General Editor and the three Associate Editors undertook this final critical reading. The 102 chapters were divided among them. Each chapter was examined as a whole by one editor; each of its topics was considered in relation to the whole range of the great books. The problems raised by this study of whole chapters were discussed in general conferences at which decisions were reached for the resolution of difficulties. The close collaboration of the five editors during this final phase of work was the nearest approach to the ideal of unity which the dimensions of the task permitted.

Both the critical nature of the work during this last period and the character of the editorial conferences required an articulation of general policies together with an explicit recognition of the discretion needed in applying them. It is therefore possible to give in the rest of this discussion of the References an account of the principles which governed their compilation and may guide their sustained use.

**THREE GENERAL PRINCIPLES CONTROLLED** the compilation of the References. They can be stated as criteria for the acceptability of references proposed for each topic and even for the tenability of the topic itself in the light of those references.

The first principle was the criterion of *relevance*. The acceptability of any reference under a particular topic depended upon its relevance to the meaning of that topic. This principle though simple in itself was extremely complex in application because of the many types and degrees of relevance which topical headings make possible. Some indication of this can be given by an enumeration of the main types of relevance. A book or passage was judged relevant to a particular topic if it

- expounded one or more of the points made in the topic
- analyzed the meaning of the topic
- explained the significance of the topic
- affirmed one or more of the propositions implied by the topic

- denied one or more of the propositions implied by the topic
- questioned doubted challenged or suspended judgment on one or more of the propositions implied by the topic
- assumed one or more of the propositions implied by the topic in order to develop the consequences of such assumption
- interpreted the meaning of the topic in relation to other matters not stated in the topic such as its presuppositions or implications
- exemplified the topic by providing illustrative instances from poetry history or science
- illuminated the topic by taking it as a point of departure for discussing related matters
- satirized the topic or those who discuss its meaning seriously

These types of relevance are not mutually exclusive. For example a particular passage may analyze the meaning of the topic as well as affirm or deny one or more of the propositions it implies. Furthermore not only do these various types of relevance have unequal weight but also within each type passages differ in the degree of their relevance to a particular topic. Hence the judgment of a reference in terms of relevance involved more than a determination that it was or was not relevant in one of the ways enumerated.

The book or passage in question had to be judged for the degree of its relevance in itself and by comparison with other relevant materials. There was no exact measure for the minimum degree of admissible relevance. The judgment was finally made in terms of the character of the particular topic and in the light of all the other references under consideration. References were often rejected for negligible relevance as well as for irrelevance. The references now remaining on each topic are there because they were finally judged to be substantially relevant.

The second principle was the criterion of *coherence*. As we have already seen in considering the construction of the topics a normal topic tends to have systematic ambiguity that is a number of related meanings. Systematic ambiguity is a middle ground between absolute univocation or unity of meaning and equivocation or multiplicity of meanings. The few topics with complete univocation raised no problem since a reference was either relevant or not relevant at all. The problem of coherence occurred when a topic had several meanings.

The coherence of the references under a particular topic was judged by being relevant not to the same meaning in all cases but to some meaning. For example two passages each of which may be relevant in itself to the meaning of the topic become incoherent if the meanings of the passages to the topic are utterly unrelated to one another. Strictly speaking two passages but the topic which becomes incoherent if it is construed as having a number of unrelated meanings.

The principle of coherence was therefore an extension of the principle of relevance. It required that the topic read in the light of all its meanings.



should if it had many meanings always remain systematically ambiguous and never pass into the sheer equivocation produced by unrelated meanings. It also required that a common thread of meaning should run through all passages referred to under a particular topic, making each passage relevant to the others as well as to the topic itself. This did not mean of course that all passages would be mutually relevant either to the same degree or in the same way just as the principle of relevance did not demand the same type or degree of relevance to the topic of all passages placed under it.

The remedy for incoherence was to reject certain references which did not fit with others under the same topic. If there were two sets of references which did not form a coherent whole one set had to be rejected.

In some instances the troublesome references constituted a small proportion of the whole collection and the problem was easily solved by rejecting these and retaining the rest. But in other instances the sets of passages which did not fit together were about equal in number and importance or at least each set was sufficiently numerous and important to deserve retention. In these cases the usual solution was to formulate a new topic under which one set could more properly be placed leaving the others under the original topic which then became coherent through the removal of the first set. Sometimes two new topics were formulated to replace one which had collected several mutually incoherent sets of references.

The principle of coherence automatically prevented topics from dividing into two or more sets of completely incoherent references but it left to judgment the degree of coherence required to maintain the unity of a given topic involving a number of related meanings. The result of these judgments should be that all references found under any topic not only fit the topic but fit together under it and have to some degree the unity of a common subject matter of discussion.

The third principle was the criterion of *sufficiency*. This applied to topics not to individual references. In the final stage of work each topic had to be judged to determine whether its collection of references was sufficient to justify its retention.

As the principles of relevance and coherence guided the editors in correcting errors of commission so the principle of sufficiency directed attention to errors of omission and caused a search for materials to supply the deficiency. It was never possible of course to be certain that all errors of omission had been corrected. Errors of commission were detectable in materials which could be thoroughly examined but to be sure that errors of omission had not been made in the treatment of a particular topic would have meant on each occasion of doubt the re-examination of 443 separate works and 77 books of the Bible.

Hence the judgment as to the adequacy of a given set of references always involved doubt. It is certainly not claimed for the references under the 3000 topics that they constitute a *full* collection of the relevant passages in the great books. But the effort to check errors of omission was diligent enough to permit the claim that the references under each topic constitute an adequate representation of what the great books say on that subject.

In terms of this standard the principle of sufficiency operated to question the retention of topics whose references judged to be an adequate collection did not seem to make a substantial contribution to the great conversation as a whole. At various stages of work topics were rejected for insufficiency in content. Those which remain meet the standard of sufficiency in two ways: the references they subsume have been judged to be an adequate representation of the great books on that subject; and as represented by these references, what the great books have to say has been deemed of sufficient substance for consideration.

THE APPLICATION OF THESE THREE CRITERIA was necessarily affected by the different kinds of topics under which the references were placed. For example, the standard of sufficiency could not be the same for a restricted doctrinal topic as for one designed to comprehend every variety of doctrine. A topic restricted to the doctrine of a single author or a small group of authors was judged to have sufficient content if the references adequately represented that author or group.

The principles of coherence and relevance did not operate in the same way for simple and complex topics. In the case of complex topics involving two or more related points, one passage might be relevant through its bearing on one of these points, and another passage through its bearing on some other point. Thus the coherence of all the references under a complex topic had to be judged differently from the coherence of those under a simple topic.

Though the topical ideal was comprehensiveness (*which meant being open to all sorts of books as well as every variety of doctrine*), it was not always possible to formulate topics which had such comprehensive coverage. As already indicated, some topics were construed more narrowly and some more broadly; some were restricted to discursive passages and some were open to both discursive and exemplary passages; some were developed under a strict policy of referring only to passages right on the point, and others were developed under a looser policy of referring to passages having a more remote relevance to the point, perhaps even dealing with peripheral matters.

According to these and other differences among the topics, the three principles had to be differently applied as the exigencies of each topic demanded. Relevant references were sometimes rejected because of the policy governing the construction of a particular topic. The degree of coherence achieved in certain topics was much greater than that in others. In general, however, it can be said that the more complex the topic, or the more comprehensive the range of its references, the more its references will vary in degree and type of relevance. Less coherence was required for such topics than for more restricted ones.

IN THE LIGHT OF THESE GENERAL PRINCIPLES, qualified as they must be for different kinds of topics, the following more particular points can now be made about the references assembled under any one topic:

(1) *The order of the authors cited* Under each topic the references are arranged in the order of the volumes in the set. This places the authors in a roughly chronological order. In two respects this order deviates from strict chronology. References to the Bible are always placed first in spite of the range of time covered by the books of the Old and New Testament. To have placed these books in a more accurate chronological relation to the other books would have divided the references to the Bible into several distinct groups.

The other reason for deviation from strict chronology is the association of two or more authors in the same volume. For example, the works of the three astronomers—Ptolemy, Copernicus, and Kepler—are published together in Volume 16. The position of this volume is determined by the date of Ptolemy, the earliest of the three. In consequence, though Ptolemy is rightly placed after Tacitus (Volume 15) and before Plotinus (Volume 17), Copernicus and Kepler are made to appear in the list prior to Augustine and Aquinas, who were chronologically their predecessors. The association of Galen with Hippocrates in Volume 10 displaces Galen by many centuries. Harvey is displaced by being combined with Gilbert and Galileo, as is J. S. Mill by being combined with the authors of *The Federalist*. These are the major exceptions to strict chronology. For the most part the reader who follows the order of the references under a particular topic will be following the discussion in the order of its historical development.

(2) *The order of the passages cited for a particular author* Normally a reference to the work of an author involves the citation of two or more distinct passages, often quite a large number. Each of these citations is a unit reference making up the whole complex reference. The order of these unit references follows strictly the order of the pages in the volume to which reference is being made. When several works by one author are included in one volume, these works are arranged in chronological order, wherever that can be done. Hence if the complex reference to the works of a single author involves the citation of passages from several of his works, these passages will usually be cited in the order in which they were written.

For the reader, the importance of this fact is negative. The order in which passages are cited is *not* the order of their significance as contributions to the discussion of the particular topic. When many passages are cited, they are not all of equal substance. Some are capital texts expressing the essence of the author's views on the subject. Others are subordinate texts which add qualifications, amplify, or extend the major discussion, or may be of quite peripheral significance.

The reader cannot understand or assess the contribution of a particular author to a given topic until he has distinguished for himself the capital from the subordinate texts. The order in which the various passages are cited does not help him to do this. Their arrangement by pages rather than by importance was a practical necessity. Knowledge of this warns the reader that the first passages to which the references direct him may not be—in fact, they seldom are—the principal ones.

(3) *Whole and part citations* References to a given work may be either to the whole work or to a part and part citations vary in length from a large section such as a book or chapter to a small passage consisting of a series of paragraphs or a single paragraph or even less. In the case of scientific and philosophical writings whole works are very infrequently cited though large sections ranging from a whole book or chapter to a number of such divisions may often be referred to. The citation of whole poetical or historical works is more frequent.

The reason for this difference lies in the difference to be considered presently between the relevance of discursive or expository passages and that of narrative or exemplary passages. In advance it need only be said that the primary relevance of a narrative work whether an epic or a dramatic poem, a novel or a play usually consists in the exemplary significance of the whole narrative. This is less true of historical than of fictional narratives. Historical episodes occupying a few pages of an historical work are more frequently cited for their exemplary significance than are whole historical narratives whereas in the case of fictional or poetical narratives often nothing less than the whole story will make the point though here as with histories episodes may also be cited.

In contrast for expository or discursive relevance it is seldom necessary to cite the whole of a scientific philosophical or theological work and even the citation of large parts is necessary less frequently than for historical and poetical works. A short series of paragraphs, a small paragraph or even a few compact sentences will often make the point adequately.

Thus the amount of reading recommended by the references under a particular topic varies not only with the number of unit references contained under that topic but also with the number of whole works and large parts cited in proportion to the number of relatively small passages. It may be thought that the citation of whole works or even of large parts tends to defeat the purpose of the Syntopicon since no reader can reasonably be expected to read this much in the course of a syntopical reading of the great books in relation to a particular topic. But the purpose for which whole works or large parts are cited does not require them to be read every time they are referred to.

It is assumed that the reader will gradually acquire acquaintance with whole works and will then appreciate somewhat the significance of references to whole works or large parts without re-reading. Furthermore even prior to such acquaintance with whole works these references inform the user of the Syntopicon of the range of literature relevant to a particular topic even if at the time they necessarily leave him in ignorance of some of the content.

In other words the citation of whole works by title performs a useful function even if all the recommended reading cannot be done at one time. The shorter passages cited can be read and will provide an indication of the content of a topic so that the user of the Syntopicon will have the background and the motivation for doing the more extensive reading that may have to be postponed. Not to have cited whole works or large parts simply because of the extent of reading involved

would have resulted in a distorted and inadequate representation of the relevance of the great books to many topics

Several devices were used in constructing the references to help the reader in handling references to whole works or large parts

The first simply enables him to recognize at once whether a reference cites a whole work or a large part of it as a whole unit. As indicated in the Explanation of Reference Style, when the page numbers immediately follow the title of a work without separation by a comma, the reference is to the work as a whole. Similarly, when a chapter or other part of a work is cited and the page numbers immediately follow without separation by a comma, the reference is to that part as a whole. The presence of the comma indicates that the reference is to some passage in the whole work or in one of its parts. The absence of the comma notifies the reader that he is being referred to a whole work or to the whole of one of its parts.

The second device is the use of the symbol *esp* which stands for especially. Frequently the citation of a whole work or a large part is accompanied by a number of references to short passages within these wholes. These references to smaller parts are preceded by the symbol *esp*. This is done where it is feasible so that the reader, without reading the whole, can go immediately to the places where the author makes his point in compact form or most emphatically. However, the passages especially cited—even a long series of them—can never be taken as an adequate substitute for the whole.

The third device serves a purpose quite opposite to that of the second. It was not always possible to cite a number of short passages for special reference within a large whole. This could be either because nothing less than the whole work was relevant to the topic or because the passages which showed the relevance of the whole were so numerous and so diffused throughout that an enumeration of them would be impracticable. In the latter case, the symbol *passim* was used to notify the reader that he could discover the relevance of the whole by beginning to read almost anywhere within its boundaries and by reading as much as seemed to suit his time and interest. When the citation of a whole work or of a large part is unaccompanied by either *esp* or *passim*, the reader is offered no alternative to reading the whole.

(4) *The boundaries of the references.* The problem of boundaries occurs only for references to passages which are less than a whole work or a whole part, such as a whole chapter or section. In the case of wholes, the boundaries indicated in the references are of course the opening and closing pages. But for any passage which is less than a recognizable part or section of the work, the boundaries aim to give the user of the Syntopicon a unit of reading which combines maximum brevity with maximum intelligibility.

Ideally, the passage cited should begin at whatever paragraph or line the relevant material begins and it should end similarly with the paragraph or line after which the material ceases to be relevant. The method of citing half pages for

volumes printed in a single column of type and quarter pages for volumes printed in a double column—described more fully in the Explanation of Reference Style—made it possible for the references to indicate the initial and terminal boundaries of a passage with some precision. But to locate the beginning or end of a passage within a quarter or a half page still leaves a margin of uncertainty and so the reader must often exercise some judgment to decide precisely where the passage begins and ends. The boundaries of the passage are given with absolute precision only where the reference includes line numbers. In all other cases the boundaries are only approximately indicated.

The Explanation of Reference Style explains how boundaries are shown by page numbers and sections and by author's divisions and line numbers. The problem to be discussed here concerns the editorial effort to combine maximum brevity and maximum intelligibility in the determination of boundaries.

These two aims were often in conflict: there was always the risk of diminishing the intelligibility of the passage by narrowing its boundaries for the sake of brevity or compactness; there was always the opposite danger of introducing diffuseness and even irrelevance by extending the boundaries for the sake of making sure that the passage would be adequately intelligible. No rule could be formulated for effecting the compromise which would always *maximize* both values. In fact the determination of boundaries called for a different kind of judgment in referring to different authors and even to different works of the same author. It was much easier for certain types of writing than for others—easiest perhaps for the mathematical and scientific works, most difficult for the poetical and historical works, especially in the citation of narrative passages having exemplary relevance.

It cannot be expected that boundary problems were always perfectly solved. In a certain proportion of the references the passages may be either too long or too short. But even in these instances the margin of error is probably not very great—not enough to put the user of the Syntopicon to much trouble or inconvenience.

(5) *Kinds of passages and kinds of books.* We have already referred to the difference between the relevance of discursive or expository passages and the relevance of narrative or exemplary passages. This is a distinction which divides all the references into two main groups. No matter what the type or meaning of the topic under which it is cited, every passage cited is relevant in one of these two ways. It either discusses the topic or illustrates its meaning. Sometimes the same passage does both, though it usually is predominantly of one sort or the other.

It might at first be thought that the great books would also divide into two groups—those providing expository and those providing exemplary passages. To some extent this is true. Since they are essentially discursive writing, the great works of mathematics, experimental science, social science, philosophy, and theology naturally tend to yield references which have expository relevance—expounding, explaining, analyzing, affirming, denying, doubting, arguing. The

great works of poetry or fiction of history and biography being narrative in form naturally tend to yield references which have exemplary or illustrative significance. But there are important exceptions in both cases.

The great narrative works whether poetical or historical contain essentially discursive passages. The fictional or historical characters in the narrative think and speak about a vast number of the themes which constitute the topics of the 10. chapters. Wherever in the course of a narrative men speak or think in an orderly sequence such speeches or trains of thought may have discursive relevance to one or more topics. Furthermore in many of the great poetical and historical works the author speaks in his own person on themes germane to his narrative. These passages are of course discursive and may have expository relevance.

On the other hand the great discursive works of science philosophy and theology contain passages which are exemplary or illustrative in their significance. These passages differ in one important respect from the illustrative materials in the poetical and historical works. They are seldom if ever narrative in form. For example a scientific treatise will contain descriptions of experiments performed a mathematical work will contain particular demonstrations and such passages may have exemplary or illustrative significance for a topic dealing with scientific theory or method.

There are a few exceptions to the rule that expository or discursive works do not contain narrative passages which can be cited as exemplary. The myths and stories told in the dialogues of Plato are certainly narrative in form. But these passages almost always contain material which is implicitly if not explicitly discursive. They are among the best instances of writing which seems to have both sorts of relevance to the same topic. Other instances are passages containing descriptions of scientific experiments accompanied by theoretical comments of general significance.

The Bible is unique perhaps in respect of the frequency with which its passages combine both sorts of relevance. There are of course many purely narrative passages in the Old and the New Testaments as there are many which seem to contain preachment or precept exclusively. But a very large number of biblical passages combines example with precept or parable with preachment. It may even be said that the most famous and striking passages in the Bible transcend the distinction and have a type of significance or relevance uniquely their own.

Nothing in the way a given reference is symbolized or recorded notifies the user of the Syntopicon which kind of passage is being cited. In a few instances he may be able to guess what to expect from the nature of the work referred to. If a narrative work is cited as a whole or even in any large part its significance for the topic will almost necessarily be exemplary rather than expository. But if the passage cited is relatively small then even in a narrative work the passage may be either expository or exemplary. In general this is also true of the citation of all or large parts of expository works. Here as before relatively small passages may be of either sort. Where no clue is provided by the general character of

the work being cited the user of the Syntopicon can discover the significance of the passage only by reading it

(6) *Series of references which have collective significance* It has already been pointed out that the references under a particular topic are unequal in their relevance to it. References were sometimes rejected because their relevance was too remote or slight. But sometimes an opposite policy was followed. A reference which by itself might have been judged insubstantial or remote took on greater significance when read in the light of other references under the same topic. In consequence it was retained both for what it added to the whole collection of references and for its own increased significance as a member of that collection.

A collection of references possessing a certain unity through the inner relation of its members was most frequently constituted by a series of passages from the works of a single author. But sometimes references to one author were judged in the light of references to others. A given author's contribution to the discussion of a certain topic might be slight if taken by itself but it gained interest in relation to the utterances of others on the same topic and so otherwise slight passages were retained because of their value as members of the whole collection of references under that topic.

This information about the way in which the references were often constructed to achieve a collective effect may help the user of the Syntopicon. One who examines *all* the references under a topic will usually find that some of the authors cited are major and some minor contributors to the discussion. He will also find that for a single author some passages referred to make a major and some a minor contribution.

The person who has read through all the passages bearing on a topic will have little difficulty in discriminating between the major and the minor voices in the great conversation on that theme. The elements of the collection will tend to assume their proper places and proportions. But to one who is still in the process of reading the passages in the order in which they are cited the collective significance of the whole and of each part as a member of it will not be apparent.

Such a person will encounter many passages whose content does not seem to justify their inclusion. If he bears in mind that a passage may have more significance within the collection than it has alone he will suspend judgment on its worth until he has gone further in his reading under that topic. Unless an error was made the questionable passage is there because it was judged that the reader would eventually see more of interest in it than first meets the eye by re-reading or remembering it in the light of other passages.

The chapter on MAN contains a good example of a large collection of references which have more significance collectively than they do individually. The topic reads: Cultural differences among men. Greek and barbarian. Jew and gentile. European and Asiatic. Of the more than one hundred passages cited it can almost be said that no single one by itself deals adequately with the subject of cultural differences among men or even with the specific cultural differences



mentioned. But references to the Bible form a significant collection on the distinction of Jew and gentile and so do those to Gibbon. The series of references to Herodotus, Thucydides, Plato, Aristotle, and Hippocrates forms a significant collection on the distinction of Greek and barbarian. The references to Montesquieu and Hegel are significant on the distinction between European and Asiatic. Some of the references to Hegel taken together with those to Darwin and Tolstoy form a collection which illuminates the subject of cultural differences in general. Thus the whole set of references is adequate to the topic in a way that no single reference or small group of them is.

A collection of references may also be used to achieve an intelligible rendering of the contribution of narrative works, poetical or historical. Where the whole narrative could not be cited, it was often possible to select a series of episodes—particular scenes and events—which read successively would have the cumulative effect of illustrating the topic. This is often the point of a long series of references to Herodotus, Tacitus, Plutarch, and Gibbon, or to Homer, Virgil, Dante, Milton, Tolstoy, Dostoevsky, and Melville.

With discursive works there was less necessity for grouping references to achieve a cumulative effect. But even here it was often true that only a certain number of the passages referred to had independent significance, whereas others depended for part of their significance on the context provided by the collection. However, it should be added that for most of the great works of science, philosophy, and theology the number of passages which could be cited for their independent significance exceeded the number which could be cited only in the context of others.

IN THE LIGHT OF THESE CONSIDERATIONS, two general rules can be formulated to guide the reader in interpreting the materials recommended for his reading:

1. The location of a passage under a topic reflects the judgment that it is relevant in some manner and degree to the subject in question, but it does not indicate the kind of relevance, or whether the relevance is dependent on other passages. The reader must discover that for himself.
2. To discover the significance of a particular passage, the reader must consider it in relation:
  - a. to the kind of book from which it is taken
  - b. to other passages from the same book, or other books by the same author
  - c. to passages from other authors cited under the same topic, with some attention to their chronological order, and to the kinds of books written by the different authors being considered
  - d. to the collective significance of the whole set of references

One other observation should be added. Very frequently the same passage is cited under different topics of one chapter, as well as under the topics of different

chapters. The user of the Syntopicon may meet the same passage many times as he goes from topic to topic or chapter to chapter. A moment's reflection will discover the reason for this.

A passage rich in content is naturally relevant to a large number of different topics and deserves as many different readings as are necessary to exhaust its meanings. Each topic under which it is cited directs the user of the Syntopicon to read the passage in a different way—interpreting it in the light of that particular topic. A previous reading of the passage in another connection will usually not suffice for an understanding of its relevance to the topic under which it now appears.

This is particularly true of passages open to conflicting interpretations. Such passages will appear in the same chapter under topics which express a conflict of theory or opinion and must be examined in the light of these topics if the reader wishes to discover how they are susceptible of such conflicting interpretations.

WE MUST NOW CONSIDER A NUMBER OF EXCEPTIONS to the rules just stated. The rules may guide the user of the Syntopicon in interpreting what he will normally find in the references but they do not take account of deviations from the norm. Perhaps these deviations can be best described by enumerating the three kinds of special problems which arose in constructing the references: (A) those caused by the special character of certain topics; (B) those caused by the special character of certain books; and (C) those caused by considerations of scholarship or by difficulties of interpretation.

### (A) PROBLEMS CAUSED BY THE SPECIAL CHARACTER OF CERTAIN TOPICS

(1) *The distinction and relation between supraordinate and subordinate topics.* This distinction has already been sufficiently explained in the section of this Appendix dealing with the topics (see pg. 1247). The supraordinate topic is a heading under which the subordinate topics logically fall as making particular points or elaborating the meaning of the supraordinate. But some supraordinates function *only* as logical headings for a number of subordinates whereas other supraordinates function also as topics *in their own right*.

The supraordinates which are only headings have no references cited under them. They are from the point of view of content empty. All other supraordinate headings have references under them just as their subordinates do. But because of their special character as supraordinate topics their reference content tends to differ from that of subordinate topics.

Supraordinate topics were used to collect in one place all passages dealing in general terms with points treated in particular terms in the passages cited under the subordinate topics or they were used to list references to whole books or large parts of books while references under the subordinate topics cited shorter passages.

These methods of developing a supraordinate topic were frequently combined. When a supraordinate was developed according to either or both methods its references tend to cover the same ground as do those of all the subordinates together. The supraordinate will refer to the most general or the most inclusive passages which are divided among the various subordinates. Since the subordinate topics state particular points or cover parts of the whole subject indicated by the supraordinate, they will contain many passages not cited under the supraordinate.

The usual difference in reference content between a supraordinate topic and its subordinates is this: the passages cited under the supraordinate cover without distinction all the points which are divided among the subordinate topics; the passages cited under each of the subordinates were selected to distinguish the discussion of one of these points from that of others.

One example may clarify the relation between supraordinate and subordinate topics. In the chapter on LANGUAGE the Outline of Topics opens as follows:

- 1 The nature and functions of language: the speech of men and brutes
  - 1a The role of language in thought
  - 1b The service of language to society
- 2 Theories of the origin of language
  - 2a The hypothesis of one natural language for all men
  - 2b The genesis of conventional languages: the origin of alphabets

The two subordinate topics (1a and 1b) make particular points generally covered by the first clause in the wording of supraordinate topic 1. Similarly in supraordinate topic 2, the two subordinates (2a and 2b) deal with particular aspects of the theory of the origin of language. Accordingly, the reference content of topics 1 and 2 will include much that will also be found under 1a and 1b, 2a and 2b, but without any discrimination of the particular points which their references provide.

Some of the reference content of the supraordinates will not appear under either of the subordinates, because certain passages are so general as to be relevant only to the supraordinate topics. Similarly, certain passages, because particular in their significance, have relevance only to the subordinates and appear only there.

Topic 1 in the chapter on LANGUAGE happens to illustrate another point which holds true for a number of supraordinate topics. Topic 1 is complex. The part preceding the colon states the main theme; the part following, a subordinate theme. The subordinate theme is itself a special point in the general discussion of the nature and functions of language. Hence it is mainly the first part of topic 1 which functions as a supraordinate for topics 1a and 1b.

The reference content of this complex supraordinate topic will therefore include, besides those passages that belong in a supraordinate, passages relevant to the narrower, special point made in the part of the topic following the colon.

These passages will not reappear under the subordinate topics unless they are relevant there for other reasons as for example a discussion of human and animal societies might deal in this connection with human speech and animal cries. What is true of this complex supraordinate topic holds generally for all complex supraordinates which in part state general themes that cover the particular points made in the subordinate topics and also in part state particular themes of their own.

One other kind of topic which is not strictly a supraordinate because it has no subordinates under it sometimes resembles the supraordinate topic in the range and character of its reference content. That is the opening topic of a chapter which frequently stands alone. For example in the chapter on CITIZEN the opening topic—The individual in relation to the state—has no subordinates neither does the opening topic in the chapter on CONSTITUTION—The difference between government by law and government by men—the nature of constitutional government.

Both of these opening topics have maximum generality for the range of discussion covered by the whole chapter. In a sense therefore they can be regarded as logically supraordinate to all the topics which follow. Accordingly such opening topics will include among their references many passages that will be cited again under later topics.

In the light of the foregoing consideration of supraordinate topics the following recommendation is made to the user of the Syntopicon. If he is interested in the whole ground covered by the supraordinate topic together with its subordinates he will generally find it profitable to examine first the passages cited under the supraordinate. If however his interest is only in some particular point treated in one of the subordinates he can go directly to the passages cited under that topic. He can supplement this later by turning to the broader materials referred to under the supraordinate or even perhaps by turning to the materials cited under other subordinate topics. In general he should bear in mind that references listed under a supraordinate will more frequently cite whole books or longer selections therefrom than will references listed under the subordinates.

(2) *Restricted or doctrinal topics.* Ideally a topic should be phrased so as to comprehend every variety of relevant doctrine and include materials from every type of book. But as we have already observed (see pg. 1239) a certain number of topics fall short of this ideal of comprehensiveness. Either their wording restricted them to the doctrine of one particular author or a special group of authors or they were construed strictly rather than broadly so as to exclude certain types of material. Usually the strictly construed topics excluded passages of exemplary rather than discursive relevance.

These facts about restricted topics are repeated here merely to advise the user of the Syntopicon not to expect the same range of materials in the reference content of all topics. For example he should not always expect to find exemplary passages along with expository ones though had the topic been construed less

strictly such passages might have been there because they are relevant. Nor can he always expect to find all the passages with discursive relevance to a particular subject if its treatment has been divided among a number of separate doctrinal topics. In such cases he must look to a whole group of related doctrinal topics to cover all the relevant authors and books.

Even within a single topic different authors were sometimes treated differently because the special contribution of each could be most effectively handled in a somewhat different manner. For example one author might be cited only for his major utterances on the subject whereas another might be represented by an almost complete collection of the passages from his works including those of minor as well as those of major relevance. This was the result of a judgment that on the topic in question one author's complete position should be examined while for another author only that portion of his work which bears directly on the subject need be considered.

One other special point deserves mention here though it does not belong to the problem of the restricted topic. Certain topics as noted (see pg 1237) state comparisons, contrasts, distinctions or differences. Ideally to be relevant to such a topic a passage should deal explicitly with the comparison etc. But not all the references listed under such topics cite passages explicitly on this point. Some deal explicitly with just one of the terms being compared and involve the other only by implication; sometimes they do not consider the other term even by implication. These passages are cited on the ground that the comparison proposed by the topic is to be found in the set of references as a whole if some passages deal with one and some with the other of the terms to be compared.

In a few rare cases of topical comparisons or distinctions no passages could be found which made the comparison or distinction explicitly and yet the sense of the tradition on that point could be gathered from a series of passages dealing with one or the other of the two terms.

(3) *Contrary or contradictory topics*. Quite frequently a supraordinate topic states a problem or issue on which there are a number of opposed points of view; the subordinate topics severally state the opposite views. Sometimes a general subject of inquiry is announced by the supraordinate topic and its subordinates propose various theories of the matter contrary to one another in some way.

Such sets of topics presented a special problem in constructing the references. In the ordinary case in which a topic not only stated the issue but aimed to cover all controversial positions taken on it the set of references was developed to include both affirmations and negations of the point at issue or all sides of the controversy. But when a number of topics explicitly set forth the controversial positions the reference content of each topic was restricted in the following way.

Passages which expressed a view in any way contrary to the view stated in the topic were not cited on the ground that some other topic stating that contrary view was the proper place for the citation of the contrary position. But if a particular author in developing his own theory explicitly commented on the position

of an adversary the passage containing that explicit commentary was judged relevant to both topics—the topic stating the view opposed by the author as well as the one stating his own view. If however an author's expression of his own opinion constituted the denial of some other view *only by implication* the passage in which that author's opinion was expressed was cited only under the positive topic and not under the contrary one as well.

A glance at the structure of the Outline for a particular chapter and a quick examination of the wording of its topics will tell the user of the Syntopicon in which way controversial issues were handled—whether by single topics covering all sides of the controversy or by separate topics representing opposing sides. In the former case the reader can expect to find contrary views expressed in passages cited under a single topic; in the latter he will find only affirmative opinions in the passages cited under each of a set of contrary topics and perhaps also explicit criticisms of each position by its adversaries.

## (B) PROBLEMS CAUSED BY THE SPECIAL CHARACTER OF CERTAIN BOOKS

(1) *The Bible* No other book in the western tradition has been subject to such extensive interpretation or to interpretation based on such incompatible principles as for example on the one hand the principles of higher criticism which treat the Bible as a secular document and on the other hand the principles of exegesis peculiar to a text considered to be the sacred and revealed word of God. Let us deal with this second point at once since it is paramount for the significance of all references to the Bible.

The Bible especially the Old Testament is to a certain extent an historical book. It reports the events of Jewish history; it describes the customs of the Jewish people and the gentiles with whom they came in contact; it deals with the political and social institutions of the Jewish tribe, the Jewish state and the kingdoms of Judah and Israel. Biblical passages of an historical tenor were therefore found relevant to topics dealing with customs, social practices and political institutions. But citing them under such topics did not prejudice the issue whether the Bible is sacred writing or merely an historical record like any secular history.

Those who in the light of their religious faith read the Bible as Sacred Scripture do not exclude the historical or literal sense as one mode of interpreting it. On the contrary they usually insist that the literal or historical sense must be the basis of all other interpretations—allegorical, analogical and moral.

Nor is the issue of the two approaches to the Bible prejudged by any other aspect of its treatment along with references to the works included in *Great Books of the Western World*. No matter what the topic under which the Bible is cited the reader is always left quite free to decide that issue for himself. He can always read a biblical passage either as a portion of divine revelation or as human writing no different from other human literature.

This is true even when the Bible is cited under topics which explicitly state a religious position either one common to Judaism and Christianity or one exclusively Jewish or Christian. The reader is still free to interpret the passage either as conveying the divine revelation of the religious dogma in question or as conveying the opinion of Moses or Isaiah or Matthew or Paul on the subject.

Of course a passage will not have the same meaning when read as the revelation pertinent to an article of religious faith as when it is read as the merely human formulation of a religious tenet but then though perhaps to a lesser degree passages from other books have different meanings for the man of religious faith and for the man without it.

A second problem concerning the Bible was that of choice among different and often conflicting interpretations of particular passages especially those whose meaning has been much disputed throughout the tradition of biblical commentary. This problem was solved as was the first by *not choosing* between conflicting interpretations. If a particular passage on one traditional interpretation was relevant to a certain topic it was cited there. If by another traditional interpretation it was also relevant to another topic even one contrary in tenor to the first it was cited there also. This permits the reader to consider both interpretations and judge between them.

Since biblical exegesis is in a sense an endless process it may be asked what limits were set to placing diverse interpretations on a particular passage. The answer is that the work of citing the Bible was governed in large part by well established traditional interpretations and where these were not available the judgment was nevertheless made in conformity with generally accepted standards of interpretation and by analogy with the interpretation of similar passages.

Still another problem concerned Christian interpretations of Old Testament passages which do violence to the Jewish sense of their meaning. Such passages were treated in the light of both interpretations. Therefore, the user of the Synopticon should not be surprised to find passages from the Old Testament cited under topics which state specifically Christian doctrines denied by the Jewish faith. These references do not prejudice the theological issues between the two historic religions of the West. Failure to cite these passages in their Christian as well as in their Jewish sense would have meant failure to present these issues so far as the Bible is concerned.

Finally there was the somewhat parallel problem of conflicting interpretations within the Christian tradition itself as between the Roman Catholic and the Protestant interpretations. In general the problem was solved in the same way as that of Jewish versus Christian interpretations of the same texts. But this problem was complicated by the incorporation of the divergent interpretations in two English translations of the Bible—the Douay and the King James.

Not only are some crucial passages quite differently rendered in the two versions but the books of the Bible itself are often differently named or numbered and differently ordered to one another. Certain books which the Douay version treats as parts of the Old Testament the current King James translation treats as

Apocrypha Even within particular books the numbering of chapters and verses is frequently different

Hence it was necessary to refer to both the King James and the Douay versions whenever there was even the slightest variance between them (This complication in the mode of citation of biblical passages is more fully treated in the Explanation of Reference Style) To whatever extent the treatment of the Bible approaches adequacy the thousands of paired citations giving King James and Douay equivalents in book chapter and verse constitute a concordance between the Protestant and Roman Catholic renderings of the Bible

This method of citing the Bible according to both versions whenever they varied led to one difficulty for which there was finally no satisfactory solution In a small number of cases the wording of a passage in one version made it relevant to a topic to which it was not at all relevant according to the language of the other version Under such circumstances to cite the passage would be to prejudice for the reader the rightness of one version as against the other Avoidance of this meant omitting some few passages which readers of one version would know and think relevant to the topic under which it was not cited What was thought the less unsatisfactory of the two solutions was chosen The error of omission was judged less grievous than the violation of the Syntopicon's rule of dialectical objectivity which demanded most insistently to be followed in such cases of conflicting interpretation

Errors of omission of this sort were unavoidable But they were in the very nature of the case not the only errors of omission since it was never possible to be sure that all traditional interpretations of the Bible from whatever source had been taken into account much less all the possible interpretations to which biblical passages are subject Furthermore the references to the Bible will be judged by many critics of quite different persuasions to contain grave errors of commission—serious misinterpretations of difficult texts which in consequence have been assigned to topics where they do not belong

The decision to include references to the Bible along with those to the works published in *Great Books of the Western World* was made with all these risks in mind It seemed better to undertake this task whatever defects or errors would certainly remain in the finished work than not to have the voice of the Bible present in the great conversation More than half the authors in this set quote the Bible refer to it or write with the Bible in mind The Bible could not be omitted from the references under many topics to which it is relevant and wherein the other books assume its presence

(-) *The poetical and historical books* Next to the Bible the great narrative works of history and fiction presented the greatest difficulties What was done here may be the subject of much controversy It may be held that the meaning of poetry—and to a lesser extent of history—cannot be comprehended under ideas or topics It should be said in reply that it is not claimed that the meaning of a poem like the *Iliad* the *Dunne Comedy* or *War and Peace* is exhausted by references



which cite it as relevant to the consideration of certain ideas and topics. The same disclaimer applies to the histories of Herodotus, Thucydides, Tacitus, and Gibbon and to the biographies of Plutarch.

A brief statement of the theory governing the syntopical treatment of such works may indicate some of the difficulties and prevent some misunderstanding of what was done. The controlling theoretical insight was that abstract and concrete, universal and individual, are everywhere correlated. For example, the fictional character and actions of Achilles in the *Iliad* are ideas in concrete or particular embodiment. The historical episodes reported by Thucydides in the struggle between democracy and oligarchy in the Greek city states present in individual instances of certain universal propositions in political theory. Again, many passages in his *History of the Peloponnesian War* concretely exemplify the problems of might and right in the relation of states to one another.

A political theorist would state these issues abstractly and universally and would perhaps formulate general conclusions as to the consequences of trying to combine democracy with imperialism. A poetical historian like Thucydides makes such points concretely by telling the tragic story of what happened to democratic-imperialistic Athens.

To say that the whole of the *Iliad* can be cited under a topic on the relation of men and gods, or that particular scenes or episodes can be cited under topics dealing with honor or pride or love, is not to say that the poetic meaning of the *Iliad* can be exhaustively comprehended by such references, even if they were themselves exhaustive of its content so far as that is relevant to the ideas and topics of the Syntopicon.

To say that the *History of the Peloponnesian War* can be cited as a whole under certain topics in the chapters on JUSTICE or LIBERTY, and to say that particular events in it can be cited under topics dealing with treaties between states, military strategy, or political revolution, is not to say that such references, even if complete, would exhaustively represent the content or significance of the *History*.

But neither is it claimed that the references to the great scientific and philosophical works exhaust their content or meaning. No more is claimed for any work of either kind—narrative or discursive—than that the references to it represent more or less adequately its contribution to the great conversation on as many themes as it may have relevance for. So far there is no difference. The difference lies simply in the mode of relevance. What one kind of work says abstractly, in terms of general propositions and universal concepts, the other kind says concretely, in terms of individual characters and particular actions or events.

The whole theory of the references to fictional and historical narratives under ideas and topics rests on the logic of example. Logically, to exemplify is to present individual or particular instances of a universal concept or a general proposition. To abstract or generalize is the logical opposite of exemplification; it consists in stating the universal concept or general rule which applies to a particular case and embraces all similar particulars as well. Without going further into the logic of universal and particular, of abstract concept and concrete ex-

perience let it suffice to say that the references in the Syntopicon which have discursive relevance move on the plane of the abstract and the general whereas the references which have exemplary relevance move on the plane of the concrete and the particular

The basic theory underlying the collocation of references to expository and narrative works under the same topics is simply that the two planes run parallel to one another. They are at all points correlative expressions of the same thing. They are as inseparable from one another and as indispensable to one another as human thought and human experience. Nothing which can be grasped by the human mind on one plane is incapable of expression on the other: in fact nothing can be grasped by the human mind on either plane without also being available to insight or experience on the other.

Using this theory as a basis for the syntopical reading of the great poetical and historical narratives did not prevent or solve all difficulties in the treatment of particular works. It is impossible to give a brief account of these difficulties since they were as various as the works themselves. Each narrative seemed to raise problems of its own. It should be reported for whatever guidance it gives the user of the Syntopicon that all problems were not solved with equal success.

The references to Tolstoy's *War and Peace* for example seem to be a better indication of its exemplary relevance to the topics than those to Dostoevsky's *Brothers Karamazov*. The same difference appears between Milton's *Paradise Lost* and Goethe's *Faust* or between Gibbon's *Decline and Fall of the Roman Empire* and the *Histories and Annals* of Tacitus. These works may have presented unequal difficulties: some may have yielded more readily to a syntopical reading than others. The other alternative is that the syntopical reading of these works was not equally well or imaginatively done. In any case reading the narrative works to discover their exemplary relevance to the topics was always a more difficult task than reading them for their discursive relevance.

A word should be added here about this second type of reading to which the narrative works were submitted. A speech by Pericles or Hamlet can have the same kind of relevance to a particular topic as a statement on it by a philosopher or a theologian. The poetical and historical works are rich in discursive relevance to many topics especially those dealing with moral and political subjects and hardly less so with respect to metaphysical and theological themes.

But one distinction must be kept in mind in considering references to the thought contained in narrative works. The thought of Pericles or Hamlet is not the thought of Thucydides or Shakespeare at least not in the sense in which the discourse of Marcus Aurelius, Montaigne, Darwin, Marx or William James expresses the thought of an author speaking in his own person. Sometimes an historian or poet speaks in his own person as well as through his characters. Thucydides does and so does Gibbon. Fielding and Tolstoy are at some pains to distinguish their own reflections from the thoughts of their characters. In other cases no such distinction can be found because the author did not make it. In all the plays of Shakespeare there is no word from the poet himself as distinguished from the utterances of his characters.

What Shakespeare himself has to say is said only by his plays and only through the exemplary significance of narrative of character and action. In contrast Tolstoy speaks in two ways—in an exemplary fashion through narrative of character and action and discursively through the passages in which Tolstoy himself discourses on a variety of subjects. In addition both Shakespeare and Tolstoy have much to say discursively through the speeches of their characters. But this indirect mode of speech must always be distinguished from the author's own discourse and certainly from the totally non-discursive—that is the exemplary—significance of the poet's creation of plot and characters.

This distinction applies to a certain number of works not ordinarily classed as poetry or history. The dialogues of Plato constitute a striking exception to the rule that the scientific and philosophical authors speak in their own persons. The thoughts and speeches of Calicles, Gorgias, Thrasymachus, Alcibiades or even Socrates himself are not direct discourse by Plato.

Because they have the poetical form of dramatic narratives, the dialogues of Plato presented a very special problem. In one sense they had to be treated like the plays of Shakespeare. A particular speech by a character in the dialogues was cited like a particular speech by a character in the plays—for its discursive content and without any judgment as to whether it expressed the thought of the author or the very opposite. But since there can be no question that Plato used the dialogues to express his own ideas, it was also necessary to construct the references to the dialogues so that they represented Plato's own opinions as well as those of his characters.

In many cases this could be done by following the line of thought in the speeches of that one character which Plato used as his *alter ego*. This was usually Socrates, but sometimes another, as for example the Athenian Stranger in the *Lysis*. In other cases it had to be done either by citing a sequence of discursive passages in which Plato's own argument or theory becomes clear, or even by citing a whole dialogue. These last two methods of representing the thought of Plato resemble the method of representing Shakespeare's thought by citing a sequence of dramatic episodes or the narrative content of a whole play.

But the difference in the treatment of Plato and Shakespeare is as important as the similarity. Whereas the representation of Shakespeare's thought was achieved only through the exemplary significance of whole plays or narrative episodes therefrom, the representation of Plato's thought was achieved mainly through the discursive significance of whole dialogues, or analytical and argumentative passages therefrom. However, in a few cases a dialogue was cited for its narrative as well as for its expository significance, as for example the *Apology*, which tells the story of the trial of Socrates, or the *Crito* and *Phaedo*, which tell the story of his imprisonment and execution.

Though the dialogues of Plato are the most striking exception to the rule in the treatment of philosophical and scientific works, similar methods were sometimes employed in other cases. For example, the *Two New Sciences* of Galileo are written in dialogue form. Here, as with Plato, the opinions of the characters in the

dialogue were sometimes cited even though they were plainly not expressing the opinion of Galileo

The scientific and philosophical treatises of Aristotle are partly historical. They usually give an account of the thought of others as well as expound Aristotle's own ideas. The references to Aristotle therefore include the citation of passages which report opinions with which Aristotle may disagree—for example those of Parmenides, Democritus, Anaxagoras, or others. This does not involve passing judgment on the reliability of Aristotle's report. Aristotle's summary is often the main or only historical evidence on certain doctrines in antiquity. Were such passages not cited, the discussion of a number of topics would be less rounded than it is.

In only one case is an author's report of the views of others not cited in isolation from his comments thereon. That is the case of Aquinas. Since the statement of the objections—the opinions of others—in the *Summa Theologica* is always accompanied by replies, and each reply is paired with an objection, the objections are never cited by themselves.

(3) *The mathematical and scientific books.* The above paragraphs deal with the treatment of the expository works of science, philosophy, and theology insofar as they presented problems like those presented by narrative works of poetry and history. Furthermore, we have already pointed out that particular demonstrations in mathematical treatises, or descriptions of particular experiments in works of natural science, were often cited for their illustrative significance under topics dealing with the theories or methods of mathematics and science. Such references do not differ in mode of relevance from those to particular episodes in narrative books. They exemplify the point of the topic under which they are cited.

But the mathematical and scientific books presented one difficulty peculiarly their own. For example, certain propositions in Euclid's *Elements* are relevant to a topic in the chapter on QUANTITY which deals with the relations of solids and with inscribed and circumscribed spheres. But these propositions are not intelligible apart from prior ones on the properties of the circle—propositions not strictly relevant to the topic in question. These should not be cited here, but under another topic in the chapter on QUANTITY which deals with circles.

No completely satisfactory solution could be found for the problem raised by the order of propositions in a mathematical treatise. On the one hand, to cite only the relevant propositions under a particular topic and to omit reference to all the prior theorems on which their intelligibility depends makes it necessary for the reader to discover these prior theorems for himself if he wishes to understand the propositions cited. On the other hand, to cite under a particular topic not only the mathematical propositions directly relevant to it but also all the prior demonstrations on which they may depend for their intelligibility would almost always frustrate the user of the *Synopicon* by making him begin his reading with propositions of no apparent relevance to the topic in question. He might have to go through a long series of propositions before he came to those bearing directly on the topic.

Of these two alternatives the first was chosen as slightly less unsatisfactory. The user of the Syntopicon will at least see at once the relevance of the propositions cited and recognizing his failure to understand these propositions in isolation he can remedy his difficulty by finding their logical antecedents. He needs only to know that in the order of mathematical exposition later propositions depend upon earlier ones for both their demonstration and their intelligibility.

This is true not only of strictly mathematical treatises but also of all the great works in mathematical physics such as Galileo's *Two New Sciences*, Newton's *Mathematical Principles of Natural Philosophy*, Fourier's *Analytical Theory of Heat* and the astronomical treatises of Ptolemy, Copernicus and Kepler. For example in the chapter on ASTRONOMY there is a group of topics on the particular heavenly bodies. One of these deals with the moon and its irregularities. Under that topic Proposition 66 in Book I of Newton's *Principles* is directly relevant. But in Newton's exposition Proposition 66 depends on at least thirty prior propositions. According to the policy followed only the one relevant proposition was cited; the others were omitted because they were irrelevant even though absolutely necessary to the understanding of Proposition 66.

Spinoza's *Ethics* written *in ordine geometrico*—in the geometrical order—clearly indicates that this special problem is caused by the nature of mathematical demonstration. Its subject matter is metaphysical and moral, not mathematical, but the *Ethics* presented the same problem as Euclid's *Elements* or Newton's *Principles* because it used an order of exposition in which propositions are logically related as prior and posterior. The method employed in referring to a mathematical work was therefore used also for Spinoza's *Ethics* just as the method employed for Plato's dialogues was also applied to Galileo's. References to Spinoza's *Ethics* cite particular propositions without citing all the prior propositions on which they depend.

The problem of referring to propositions in works written in a mathematical manner is an aggravated form of the more general problem faced in treating all expository works scientific, philosophical or theological as well as mathematical. As already pointed out it was frequently necessary to cite a whole series of passages, some major, some subordinate, in order to present an author's thought on a particular topic adequately. The significance of many of these passages, especially the minor ones, depends on the context of the others, and since passages are always cited according to the order in which they occur the user of the Syntopicon is often asked to read first something which gains significance only from materials to be read subsequently. But there are two differences.

In the case of works not written in a strictly deductive order the passages cited first in a series of references may depend for their significance upon materials which come later, whereas in the mathematical or deductive order later propositions always depend on earlier ones. In non-mathematical works all the passages in a series have some relevance to the topic in their own right, whereas in mathematical works the prior propositions are strictly not relevant at all.

### (C) SPECIAL PROBLEMS OF SCHOLARSHIP AND INTERPRETATION

(1) *The problem of translations* More than half of the works included in *Great Books of the Western World* are translations. If translations were always faithful to the sense of the original language this would raise no problem. But as every one knows they are not. All translations are subject to suspicion and almost none ever satisfies all competent scholars.

Scientific or philosophical works are generally better translated than poetic works. Translations from modern languages such as Italian, French and German are usually better than those from ancient languages and among the latter translations from Latin are usually superior to those from Greek. It might almost be said that no Greek scholar is ever perfectly satisfied with an English rendering of Greek poetry or philosophy.

Even if the translations from Greek published in this set were the best available it would still be true that certain passages clearly relevant to particular topics in their English rendering become less clearly relevant or even irrelevant when read in the Greek. The members of the staff who did the syntopical reading of the Greek books discovered this again and again.

They raised a difficult question: Were they to cite the passage according to its significance in the original Greek or in the English translation? If whenever there was a variance between original and translation the interpretation of the passage and its topical allocation were to be determined by the Greek wording the user of the Syntopicon would find passages in the English translation omitted from topics to which they are relevant. If on the other hand the wording of the translation was to be the standard the reader would find Homer or Aeschylus or Plato cited under topics to which according to some good scholarship they are not relevant.

At first this appears to be a choice between errors of omission and errors of commission. Actually it was a deeper problem involving a decision as to the purpose the Syntopicon could and should serve. Since the Greek books were being published in English it would have been totally impractical to make the references depend upon the sense of the Greek. By reading the passages cited in English the reader could not possibly discover why they were relevant to the topic and in addition he would find relevant passages which were not cited. Since the purpose of the Syntopicon is to guide the reading of the great books as here published the only solution however unsatisfactory it may be in some respects was to base the interpretation and topical allocation of passages on their sense in English translation.

This solution applies of course to translations from all foreign languages. But it is less unsatisfactory for the others than for the Greek books. It will not seem unsatisfactory in any case to the general reader with only English at his command. Since he must become acquainted with the great books in translation the

Syntopicon serves him well by referring to them as if they were all written in English. The scholar may regret the distortions and errors necessarily consequent upon this policy but he is in a position to correct such errors wherever he discovers them.

(-) *The problem of interpretation* Almost all of the great books contain passages which even when translated with absolute fidelity or when originally written in English are difficult to interpret—passages on which there has been much scholarly commentary and on which competent scholars have long disagreed. The topical allocation of such a passage according to one theory of its meaning would inevitably evoke criticism from the scholars of an opposite school.

The solution of this problem was in part like that of the special problem of biblical interpretation: the same passage was cited under different topics according to divergent or even conflicting interpretations of it. As in reading biblical texts, well-known traditional interpretations were consulted and often followed.

Here the great books themselves were helpful. Later authors comment on earlier ones. The interpretation of one great author by another was frequently available and was often influential in the syntopical treatment of a particular passage. Even when two or more among the great authors disagreed in interpretation, one of their predecessors it was still possible to follow their divergent readings of the passage by placing it under as many different topics as were suggested by the diverse meanings they assigned to it.

To whatever extent the method of multiple interpretation and allocation was successfully practiced, the references even to extremely difficult passages avoided the necessity of choosing between conflicting theories of their meaning. But it cannot be claimed that *all* the recorded interpretations of difficult texts were followed in allocating those passages—not all the interpretations to be found in the great books themselves were used, much less all those which can be found in the voluminous literature of scholarly commentary on the great books. Again the policy was determined by the primary purpose of the Syntopicon—to serve the general reader of the great books rather than the scholar.

A large number of scholarly interpretations of difficult texts are highly specialized. They often involve an elaborate theory of the whole work and beyond that of the mentality of the author. For the Syntopicon to follow such interpretations would only bewilder the general reader. He would find passages cited under topics to which their relevance could not be apparent because it depended on hidden principles of interpretation.

The controlling principle therefore was to place passages only under topics where their relevance would become apparent to the general reader either when he read the passage carefully in the light of the topic or read it carefully in this light and also in the light of some or all of the other passages cited under that topic. Scholarly interpretations which did not permit the references to conform to this rule had to be ignored.

(3) *The problem of the validity of the great conversation* The compilation of the references under topics and ideas construes the authors as talking about the same themes and even as talking to one another about them. In the latter sense the great conversation is admittedly in part a fiction since earlier authors cannot actually talk to later ones. Nevertheless logically their remarks on a subject often function as comment on or even rejoinders to the remarks of their successors. Though they are chronologically arranged the references under each topic do not form a straight line but a circle in which any point may be diametrically opposed to any other. The great conversation does not move irreversibly from past to present: it moves in a circle of thought which partly transcends time.

The assumptions underlying the construction of the references to represent the great conversation have already been stated and defended in this essay. But the issue they raise between the historical and dialectical treatment of ideas deserves further comment here.

In its most extreme form the position of historical scholarship is that each of the great authors certainly the greatest among them somehow managed to create an intellectual world entirely his own—peopled by his own ideas walled in by the unique systematic ordering which he imposed upon them and rendered incommunicable with other worlds by his private vocabulary. According to this extreme position to talk with or listen to one of the great authors on any of the great themes it is necessary to gain admittance to his world with the keys provided by historical scholarship. The keys are available to anyone who will take the pains to acquire them—to anyone except the great authors themselves who having constructed their own worlds insist upon talking and being talked to each in his own. In one sense they lock each other out; in another sense each introduces the others into his own world but always recreates them in his own image.

According to this view of the history of ideas a genuine dialectic of ideas is impossible and the notion of the great conversation is an imposture. The references which collect the authors under the same topic and present them as relevant to one another as well as to the same theme does violence to the principles and method of their work by blindly ignoring the innermost secret of their individuality. If the passages cited by the references had been properly interpreted each according to the special lights of its author they could not have been placed side by side in this way.

The issue raised by the most extreme form of historical scholarship thus finally comes down to a question whether the passages cited in the references were rightly interpreted. The question cannot be decided simply by reading the passages for even if they do appear to be relevant to one another and to the same topic the historical scholar who denies the great conversation can still insist that the appearance results from a superficial reading and that the reality is discernible only by a deeper understanding of the texts on historical principles is quite otherwise.



The issue is one of conflicting assumptions—or perhaps presumptions. If it is presumptuous on the part of those who constructed the Syntopicon to stand outside the great authors in an effort to align them in a conversation and engage them in a dialectic which they themselves did not always explicitly recognize, it may be no less presumptuous on the part of the extreme exponents of historical scholarship to isolate the great authors from one another, imprisoning each in his own intellectual world.

No doubt the kind of complete immersion in the work of a single author which the best scholarship often involves tends to impress one with the unique and incommensurable character of his thought. But the contrary impression can be as readily formed by a dialectical reading of the books. At its best it also involves complete immersion, not in the work of one author but in the tradition which somehow embraces them all.

Whether a final understanding of the great books would favor the intellectual isolation or communion of their authors—or both—is a question that must be left to any reader who feels competent to make that judgment. The user of the Syntopicon need not make it while in the process of using the Syntopicon. He need only know that the Syntopicon was constructed on dialectical principles, not on the principles of historical scholarship in their most extreme form.

He will then realize that the interpretation of the passages cited in the references was based on the assumption that the books can be read together and can be construed as mutually relevant under many topics, if not under all. Whatever his own final judgment, he will be guided by the knowledge that the creators of the Syntopicon were committed to the policy of trying to see the authors as somehow more in communion than in isolation.

The creators of the Syntopicon acknowledge taking a position on this ultimate issue of interpretation. This does not mean that they were unaware of or undisturbed by the difficulties of applying their principles. The preceding discussion of the construction of the references consists largely of a recital of difficulties and of the frequent necessity of choosing the less objectionable of two unsatisfactory solutions.

The effort to achieve dialectical comprehensiveness by means of systematic ambiguity in the topics may sometimes have stretched equivocation to the breaking point. In other cases the margin of equivocation permitted may have been misleadingly and unhelpfully great. In still others the unity among the authors may have been a thin thread as compared with the bulk of their differences. But all these risks were knowingly undertaken in the interest of showing that the great authors can be read as though in conversation on the same question or topic, even when their positions and language are so disparate that more cautious scholars would hesitate to ascribe unity to the topic or coherence to the conversation.

The scholars take another sort of risk which the creators of the Syntopicon were unwilling to assume—the risk of asserting that the topics discussed and the questions answered by one author are incommensurable with the topics and questions

considered by another. As between the dialectical unity of the western mind and the historical isolation of its individual geniuses the true meaning of the intellectual tradition can be discovered only by taking risks of both sorts. Justice must be done to each author as an individual and to his place in the tradition.

THROUGHOUT THE PRECEDING DISCUSSION the aim has been to assess the virtues and defects of the References to indicate possible errors of omission and commission and their causes and to consider the problems of interpretation which could seldom be perfectly solved.

But even if no errors of commission had been made and no mistakes in interpretation the References would not represent an adequate comprehension of the contribution of the great authors or the content of their books. The References merely try to indicate what the books have to say on these topics. They undoubtedly have much more to say than can be exhausted by even a complete allocation of their contents under the 3000 topics that were chosen.

The fact that certain authors or books yielded more readily than others to the method of the Syntopicon certainly does not mean that the latter are less rich or meaningful because they are represented by fewer references. These defects and discrepancies naturally resulted from the effort to treat the whole set of books—the whole tradition rather than individual authors and works—as the object of study. Therefore syntopical reading of the great books as a whole may necessarily be a more or less inadequate reading of each individual book. The one need not be substituted for the other nor should it be.

There is also inadequacy in the reverse direction. Even if no errors of omission had been made the References would not represent an adequate discussion of the topics. To take them as such would be to assume that what the great books have to say on these subjects exhausts everything that can be said or even everything that has been said. Many topics of great significance have references collected under them which do less than complete justice to the problems or issues they propose. The Outlines of Topics frequently include questions or themes on which other books especially concerned with these subjects amplify and in some cases add often substantially to what the great books have to say. Therefore to round out the discussion a list of Additional Readings at the end of each chapter supplements the References assembled in that chapter.

## V THE ADDITIONAL READINGS

THE WORKS RECOMMENDED were chosen to supplement the works contained in *Great Books of the Western World*. They were selected for each chapter to round out the discussion of the idea and topics to which the great books make the principal contribution.

The Additional Readings far from exhaust all the writings which could be listed as relevant to a particular chapter. More than relevance was required. The books chosen for each chapter had to make a significant and substantial

Furthermore it was impossible to ask a large number of scholars to check all the 102 reading lists. At most they could be asked to examine a small number of them. Yet it was desirable to obtain a certain degree of consistency for all the lists. Therefore some effort had to be made to see that the same principles of selection were applied uniformly to all 102 lists. This was done by a small number of consultants who reviewed and revised the complete set of reading lists, each consultant considering all lists from the standpoint of some particular type of book—such as poetical works, historical works, mathematical and scientific works, philosophical and theological works.

Finally, neither the specialists who gave advice on books in particular fields nor the consultants who examined all the lists could be expected to understand fully the precise purpose the Additional Readings were intended to perform in the Syntopicon. For this they would have had to study the Outlines of Topics and also to know the range of the references under each topic. To make the Additional Readings supplement the References chapter by chapter it was necessary to know on what points and in what way the discussion of each idea and its topics needed to be amplified.

Since work on the References was in process at the same time that the Additional Readings were being constructed, such knowledge was neither available nor easily communicable. The final judgment on the content of the Additional Readings had to be left therefore to the editors of *The Great Ideas*. In the last two years of work on the Syntopicon they revised the lists which had been constructed and corrected during the preceding years. They had to assume responsibility for whatever errors of omission or commission the lists contained.

A FEW WORDS SHOULD BE ADDED HERE to account for what scholars and specialists are likely to regard as errors of omission or commission. As the Syntopicon was designed primarily for use by the general reader, so also were the Additional Readings. Consequently certain things were intentionally omitted though their importance and relevance could be reasonably defended.

In many fields there is a vast periodical literature of important essays, articles, research reports, and monographs. Such literature is generally not available to the general reader, who is limited to what can be found in bookstores or in local public libraries, and seldom has access to the great collections of a few university libraries or a few public libraries of national standing. Furthermore, the monographs and papers which appear in the learned journals are usually extremely technical, and their contribution to the discussion of a subject is usually narrow and specific rather than broad and general. For these reasons, no periodical literature was included in the Additional Readings, except in the few cases in which papers or essays first published in learned journals were later collected and published as books, and then only if these papers were not too narrow in their significance.

For similar reasons, the effort was made to cite only books written in English or translated into English, though here there were more exceptions to the rule.

In every case the exceptions had to be justified on the ground that the untranslated work was of such crucial importance or such unique significance that the discussion of the subject would suffer substantially from its omission. This is especially true of the literature of antiquity and the Middle Ages, some of whose basic works are not yet translated.

To the reader with no foreign language at his command the inclusion of these titles is a recommendation which is now only instructive but may become useful at some future date. It can be hoped that works not yet translated at the time of publishing the *Synopticon* will progressively become available in English.

The same general policy was followed in the case of works out of print and not available in any except a few public or university libraries. It seemed purposeless to recommend to the general reader titles he could not procure in some edition either at bookstores or public libraries. Yet here as before a certain number of exceptions were made on the ground that the particular title was of extraordinary value. Since such works may once again become available through the publication of new editions, these recommendations may also have some future usefulness.

The chief criticisms of errors of commission are likely to be directed by scholars against some of the contemporary works included in the reading lists: *i.e.* mainly works published in the last five or ten years. To a less extent all works published in this century.

Except for Freud's later writings, this set of great books contains no works published in the twentieth century. The reason is not that no great books have been written in this century. Rather it is that not enough time has yet elapsed to give anyone the necessary detachment and perspective to decide which contemporary books belong with the great books of the past. The factor of recency is responsible for considerable controversy over which books of the nineteenth century deserve to be classified as great, and it is generally much easier to get a judgment approaching unanimity concerning the great books of antiquity and the Middle Ages than those of modern times.

For the same reason the contemporary works listed in the Additional Readings are more likely to be criticized than all the rest. It is much more difficult to assess their contribution or estimate their importance accurately. When a sound judgment can be formed about them, some will certainly turn out to have been overestimated.

At the risk of such errors of commission, a deliberate effort was made to include in the reading lists as many contemporary books as possible. This seemed desirable because *Great Books of the Western World* stops short of this century, and also in order to give concrete evidence that all of the ideas and many of the themes of the great conversation are subjects of inquiry and discussion by the most active minds of our own day. That some contemporary books are recommended which may ultimately be judged unworthy seemed on the whole less of a disservice to the user of the *Synopticon* than would be the omission of these books. In trying to include the most recent publications, the Additional Readings in some chapters cite original works published as late as 1950.



# INVENTORY OF TERMS

The Inventory of Terms is designed to facilitate the use of the Syntopicon as a reference book. By means of the terms here listed in alphabetical order it directs the reader to the relevant top in the 102 chapters and thus enables him to discover what the great books have to say on the 3000 topics which represent the themes of the great conversation. The titles of the 102 chapters are included in this alphabetical list because each of the great ideas is also a term in topics of chapters other than the one devoted to its consideration.

In order to see the particular topic in the context of related topics the reader should turn first to the Outline of Topics in which the particular topic occurs. Immediately following the Inventory (p. 1346) a table lists the pages in Volumes I and II of *The Great Ideas* on which each Outline of Topics appears. The Outline of Topics in each chapter directs the reader to the pages of its Reference section where the particular topic is treated.

Each term in the Inventory is accompanied by references to the chapters and topics in which it is a significant element. The terms are the words or phrases printed in bold face type. Whole chapters are cited by both chapter number and name, for example *sec 4*, *Art*. Individual topics are cited by the name of the chapter and the number of the topic in the Outline of Topics of that chapter, for example *see Art 52*.

In each entry topics are listed in the alphabetical order of the chapters in which they appear. However, whole chapters when cited always precede individual topics. In some entries the citations are divided into two groups: those of primary and those of secondary significance. The first group is separated from the second by a diagonal line.

SOME WORDS CARRY A QUALIFICATION in parentheses to indicate the sense in which they are being used. For example, *Balance (phys)* stands for the term *balance* as used in physics. *Crisis (med)* stands for the term *crisis* as used in medicine. When the same word is used in two or more senses, qualifications indicate the distinct terms it represents. For example, *Function (biol)* stands for the term *function* as it is used in biology and *Function (math)* stands for the term *function* as it is used in mathematics.

Terms which are the names of particular sciences, such as logic or biology, may be related to topics which treat the nature of the science itself or they may be related to topics concerned with the subject matter of that science. The words *science of* or *subject matter of* following words like logic and biology, indicate which sort of topic should be sought. For a small number of such words the qualifying phrase is not needed to determine the meaning.

Phrases are sometimes necessary to express an idea more fully or to make its meaning definite, for example, *Law of contradiction*, *Military strategy* and *et cetera*. The same purpose is served by putting related words for example, *Appearance and reality*, *French* or *suffrag* and *History*, *history*.

FOR COMMENT ON THE USE of the Inventory of Terms see the Preface (Vol I pp. ix-xx) and for the general principles and methods of its construction see Appendix II (Vol II pp. 1225-1228).

## A

*Apology* and *apologetics* see EXPERTISE 2d  
JUDGMENT 8c KNOWLEDGE 6c(4) REASON 10  
5b(3) / see also MATHEMATICS 10 10 10  
AND IAGINATION IN SPACE 42-4b TIME 6c

*Abilities (psychol)* see LIFE AND DEATH 3 M 10  
4-5a SOUL 2c-2c(3) / see also ANIMALITY (1)  
12(4) HUMANITY 5-5d HUMANITY 6b M 10  
6a QUALITY 2a SOUL 2 VIRTUE 10 10 10

*Abrogation* see EVOLUTION 4c / see also ANIMALITY  
8b EVOLUTION 4

*Abnormal and normal* see NATURE 2c

*Abnormality (psy)* see DISEASE 6b-6c DUTY  
4b EMOTION 3a 3c-3c(4) LOVE (2)-2a(4)  
MIND 5b MEDICINE 6-6c(2) MEMORY AND  
IMAGINATION ( )-2c(4) 5c MIND 8-8c O  
AND MIND 3b(5) OPPOSITION 4c PLEASURE  
AND PAIN 8c PUNISHMENT 6 SIGNS AND SYMBOLS  
6c 5-5 5 WILL 9b

*Abolition* see O AND MANY OPPOSITION 2c /  
see also HISTORY 42(3) ILLUMINATION 10f-  
10f(2) PROGRESS 1

*Absolute and limited government* see CONSTITUTIONAL LAW 2a MODERNITY 12(2) T  
5-5c / see also CITIZENSHIP 2b C

- GOVERNMENT 1b MONARCHY 4d 4c(4) SLAVERY 6b-6d
- Absolute and relative (*philos*) see RELATION 6-6c UNIVERSAL AND PARTICULAR 7-7c / see also BEAUTY 5 CUSTO 1 AND CONVENTION 9a GOOD AND EVIL 6d HISTORY 4c OPINION 6a TRUTH 7a-7b
- Absolute and relative (*phys*) see CHANGE 7c(3) RELATION 6a SPACE 2 TIME 1
- Absolute Idea see IDEA 1f / see also DIALECTIC 2d(2) HISTORY 4a(1) PROGRESS 11
- Absolute mind see MIND 10f
- Abolition (*theol*) see RELIGION 2f SIN 4c / see also GOD 9c RELIGION 2c
- Abstemiousness see DESIRE 6b TEMPERANCE 2
- Abstract and concrete (*log*) see IDEA 4b(1) MEMORY AND IMAGINATION 5b ONE AND MANY 1c SIGN AND SYMBOL 2c
- Abstract on see IDEA 3b MEMORY AND IMAGINATION 1c(1) UNIVERSAL AND PARTICULAR 2b-2c 4c / see also BEING 8b EXPERIENCE 2b MAN 1b MATHEMATICS 2a QUALITY 6a SENSE 5a SPACE 5
- Abul a see WILL 9b
- Acceleration see MECHANICS 5c(2) 6c QUANTITY 5c
- Accident and substance see BEING 7b-7b(6) FORM 2c(1) / also BEING 8c-8c MATTER 1b NECESSITY AND CONTINGENCY 2d ONE AND MANY 3b(3) QUALITY 1 3d QUANTITY 1
- Accidental and essential see BEING 8d-8e NECESSITY AND CONTINGENCY 3a-3c ONE AND MANY 3b(1) SAME AND OTHER 3a / see also CHANCE 1a 2a NATURE 3c(1)
- Accidental and intentional see PUNISH 1 NT 2a VIRTUE AND VICE 5c WILL 3a-3 (2)
- Accidental and substantial change see BEING 7b(5) CHANGE 6 MATTER 1b / see also CHANGE 7-10c
- Accidental sensibleness see SENSE 3c(4)
- Acoustics see MECHANICS 7b
- Acquired characteristics see EVOLUTION 3a
- Acquisitiveness see DESIRE 7a(3) VIRTUE AND VICE 6c WEALTH 10c(3)
- Action and contemplation see HAPPINESS 2b(7) KNOWLEDGE 6c(1) LABOR 1b PHILOSOPHY 4a 4c 6d PLEASURE AND PAIN 4c-4c(2) PRUDENCE 2a STATE 8c WISDOM 1b c
- Action and passion (*metaph*) see CHANGE 3 Ti 1 5a
- Action and production see KNOWLEDGE 6c(2) PRUDENCE 2b / see also ART 6c KNOWLEDGE 8a LABOR 2-2b SCIENCE 3-3b VIRTUE AND VICE 2a(1)
- Action and reaction see CHANGE, d MECHANICS 1b
- Action at a distance see ASTRONOMY 3b MECHANICS 6d(2) SPACE 2c
- Actual or personal see SIN 2a 4-4c
- Actuality and potentiality (*metaph*) see BEING 7c-7c(3) FORM 2c(1) INFINITY 4c MATTER 1-1a / see also HABIT 1a INFINITY 1b MATTER 3b MIND 2b QUANTITY 7 TIME 5b
- Adam see MAN 9b-9b(1) SIN 3-3c WILL 7c(1)
- Adaptation (*biol*) see ANIMAL 3d 11b EVOLUTION 5a(1) HABIT 3c LIFE AND DEATH 4
- Addition see INFINITY 3a MATHEMATICS 4a
- Adequate and inadequate ideas and knowledge see IDEA 3b 6c KNOWLEDGE 6d(3) OPINION 3b
- Adjudication see LAW 5g PRUDENCE 6b
- Administration (*pol*) see GOVERNMENT 3e-3c(2) LAW 7c MONARCHY 1b(3)
- Adolescence see FAMILY 6c LIFE AND DEATH 6c MAN 6c
- Adoration see DUTY 11 GOD 3c HONOR 6a RELIGION 2b
- Adult see FAMILY 6c LIFE AND DEATH 6c MAN 6c
- Adultery see FAMILY 4d SIN 2c(1)
- Aesthetic judgment see ART 7b BEAUTY 5 JUDGMENT 4 / see also CUSTO 1 AND CONVENTION 9a NATURE 5d POETRY 8 UNIVERSAL AND PARTICULAR 7c
- Aesthetics science of see BEAUTY 5 JUDGMENT 4 PHILOSOPHY 2c POETRY 8
- Aesthetics subject matter of see ART 8 HABIT 1-2 5-6 GOOD AND EVIL 1c KNOWLEDGE 6c(1)-6c(2) NATURE 5d POETRY 1 1b 5-6b 8-8c / see also JUDGMENT 4 KNOWLEDGE 8a PHILOSOPHY 1d RELATION 6c
- Aetiology (*med*) see MEDICINE 5d-5d(2) 6c 6c(2)
- Aeternity see ANGEL 3c ETERNITY 1b Ti 1e 2a
- Affective qualities see PLEASURE AND PAIN 4b QUALITY 2a
- Affective tone (*psychol*) see SENSE 3c(2)
- Affirmation and negation (*log*) see INFINITY 2b JUDGMENT 6b 7a OPPOSITION 1d(1) RESOLUTION 2a(2)
- After effects (*med*) see MEDICINE 5c
- Afterlife see IMMORTALITY 5-5g / see also ETERNITY 4d GOD 7g HAPPINESS 6 7c-7c(3) KNOWLEDGE 7c MIND 4c PROPHECY 2a PURITY 5d 5c(1)-5c(2) SOUL 4d 4d(4)
- Age see LIFE AND DEATH 6-6c MAN 6c
- Agent intellect see MIND 1a(4)
- Aggression see WAR AND PEACE 3a / see also GOVERNMENT 6 JUSTICE 9f WAR AND PEACE 6a
- Agnosticism (*theol*) see GOD 2c KNOWLEDGE 5a(1) THEOLOGY 5
- Agriculture see ART 9a LABOR 5b NATURE 2a WILDLIFE 3c

Air *see* ELEMENT 3b MECHANICS 5b 5d O POSITION 3b

Alchemy *see* CHANGE 10a ELEMENT 3c

Algebra *see* MATHEMATICS 4a MECHANICS 3c

Alien *see* STATE 5a

Alimentary system (*biol*) *see* ANIMAL 5c 6b

All glance *see* CITIZEN 4 DUTY = LAW 6a 7d  
REVOLUTION b STA 3c / *see also* JUSTICE  
10b LAW 6c REVOLUTION 6a

Allegory *see* POETRY 8c RHETORIC 2a = GN AND  
SYA 30 4d

Alliance (*pol*) *see* GOVERN 1 NY 5a 5 AT 9c(2)  
WAR AND PEAC 10g 11c

Almsgiving *see* RELIGION 2c WE LTH 10c(1)

Alphabets *see* LANGUAGE 2b

Alteration *see* CHANGE 9-9b QUAL TY 5

Altruist c love *see* LOVE 1c 2b- b(4)

Ambiguity *see* LANGUAGE 5 SIGN AND SYA OL  
3a 4c

Ambit on *see* DESIRE 7a( ) HONOR 2b 5a

Amendment (*pol*) *see* CONST ITUTION 8a H O-  
LUTI N 1a

Amnesia *see* MEMORY AND IMAGIN 10c c(3)

Amnesty *see* JUSTICE 9a

Amusement *see* PLEASURE A D PA N 4d

Analogy (*biol*) *see* ANALAL 2b LI AND D TH  
3b

Analogy and the analogical (*log*) *see* ID A 4b(4)  
REA ONING 4f R LAT ON 1d SAK AND  
OTH a 3b SIGN AND SYA BOL 3c(1) 3d / *see*  
*also* BEING 1 GOD 6b S GN ND SYM O 5f

Analysis and synthe (*log math*) *see* LO 1c  
4d MATH = TIC 3c PHI OSO 1v3c RE SON  
ING 5b(3) 6b

Analyt and synthet c judgment *see* JU b NT  
8b

Analyt al geom try *see* MATH MA c 1d  
MECHAN 3c

Anarchy *see* D = RACY 2 GOV RN IEN 1a 5  
LI RTY 1b TY ANNY 3

An thema (*th ol*) *see* REL O 04 6( )

Anatomy subject matter of *see* ANMAL 3-3d  
SENSE 3a / *see also* EVO U 04 6 7b( )

Ancestors *see* FAL LY 7b

Ant try (*biol*) *see* E OLD ION 3d 4c 5 7b  
7b( ) 7c MAN 8c

Angl s CH 1 ANGE and KNOWL DG 7b  
M ND 10c / *see also* BEING 7b(2)-7b(3) ET R  
N TY 4 FORN 2d HONOR 6b LAN U  
MAN 3b SOUL 4d(2) UNIVERSAL AND PA TIC  
ULAR 4b

Anger *see* COURAGE 3 EMOTION 2-2b SIN 2 (1)

Angles (*m th*) *see* QU NTITY 3a SPACE 3d

Anim l *see* CH AN IAL H 24 EVOLUTION  
and LI E AND DEATH 3-4 M N 1 2c 4a-4c

REA ONING 1a = USE 22-2c STATE 1a / *see also*  
CH. AGE 10b EMOT ON 1c HA 17-3c KNOWL  
EDG 7d LANGUAGE 1 L E AND DEATH 6a  
MAN 8c MEMORY AND I AGINATION 6b MIND  
3-3c SOUL 2c(2) WILL 3a(1) 6c

Animal soci ty *see* STATE 1

Animate and inanimate *see* CAUSE 2 CHANGE 6c  
8-10b LIFE AND DEATH 2 / s *also* NATUR 3b  
WORLD 6b

An mis s ASTRONO 1v8b MIND 10b NATURE  
6a SOUL 1 WORLD 1a

Ann xat on (*pol*) *see* STATE = (1) WAR AND  
PEACE 6

Anthropology subject matter of *see* CL TON AND  
CONV NTION 2-4 7a-7b EVOLUTION 7c MAN  
2b(1) 7- c 9c STAT =

Anthropom rphism *see* GOD 6a RELIGION 6f

Antin mes (*log*) *see* DI XC = 3c O OSITION  
e R ASOVING 5c THEOLOGY 3

Ant quity *see* TIME 8a-8b / *see also* EVOLUTION  
7c MAN 9c

Antithe and thes = (*philos*) *see* DIALECTIC  
3d HISTORY 4a(3) O POSITION 2b 2c

Anxi ty *see* EMOT ION 3c(3) S GN AND SY BOL 6c

Apha ia *see* ME RY AND IM = NAT O4 2c(3)

Apodicti judgm nt JUDGMENT 6c NECES  
SITY AND CONTINGEN Y 4c(1) / *see also* HY  
POT SIS 5 R ASOVING 2b

Apolog tics *see* RELIGION 6b THEO OGY 4

Appe ance and alty = NO 7c DIALECTIC  
2 ( ) / *see also* BEIN 3 5

Apperception *see* SENS 3c(5)

Appet te *see* ANI AL a(3) D R 1-3d H BIT  
3 S NS 3c WILL 1

Appl d science *see* ART 6 KNOWLEDGE 6c( )-  
6( ) 8a MATHE ATICS 5 PHY IC 5 PROG  
a s 3c SCIENC 1b(1) 3b

Appr ciat on (*aesth*) *see* ART 7-7b BEAUTY 4  
5 JUD GMENT 4 M ORY AND IMAGINATIO 3  
NATUR 5d PO TRY 8-8c S N 6 UNIV R L  
AND PARTICU R 7c

Appreh ns on (*log*) *see* ID A g 6f JUDO TI  
PRI C P 2a (3)

App etence *see* LA OR 3d

Archetype *see* A T = Y 3 FORM a GOD 5f  
ID A c

Ar a (*math*) *see* M H NICS 3d QU N ITY  
3d(1) 6b

Argument DI CTI 2b 3b O 1 10 2c  
REA ONING 5-5d RHETO = 4c-4c(3) /  
*also* INDU TION 4-4b PH LOSOP Y 6b

Art toct cy *see* H 3 ART TO RACY and DE  
O R CY b 3c EDUCATION 8d VI TUE AND  
VIC 7c / *see also* CITI N 2c CONSTITUTION  
5a 7 GOVERN = 2a HONOR 4b O a  
CHY 2 R VOLLTION 3c(2) 5 STATE 5c



Arithmetic science of *see* MATHEMATICS 1 / *see also* ASTRONOMY 4 EDUCATION 5d MATHEMATICS 4a

Arithmetic subject matter of *see* QUANTITY 4-4c / *see also* INFINITY 3a MATHEMATICS 1c 4a MECHANICS 3a ONE AND MANY 2a TIME 6c

Arms and armament *see* STATE 9c(1) WAR AND PEACE 7 10f

Army *see* DEMOCRACY 7c STATE 9c(1) WAR AND PEACE 7 10 10b-10c

Art *see* CH 4 ART AND BEAUTY 2 CHANCE 5 EXPERIENCE 3a KNOWLEDGE 8a NATURE 2a PROGRESS 6a PRUDENCE 2b VIRTUE AND VICE 2a(2) / *see also* CH 6a POETRY AND EDUCATION 4d 6 HABIT 5a KNOWLEDGE 6c-6c(2) LABOR 1c 2-2b 4c LANGUAGE 4-9 LOGIC 3-3b MEDICINE 2 2c 3a MEMORY AND IMAGINATION 7-7b MIND 1c(2) 1b PHILOSOPHY 2c PHYSICS 5 PLASURE AND PAIN 4c(1) PROGRESS 6d RHETORIC 1-1c SCIENCE 1b(1) 3b STATE 7b 8d-8d(3) VIRTUE AND VICE 4d(4) WAR AND PEACE 10 WORLD 4c(1)

Arteries *see* ANIMAL 5b

Artificial and natural *see* ART 2-3 NATURE 2a ONE AND MANY 3b( ) POETRY 1a / *see also* ART 9a BEAUTY 2 MEDICINE 2b WEALTH 1

Artificial selection *see* EVOLUTION 2

Artisans *see* LABOR 3 3b STATE 5c 6b

Asceticism *see* PLEASURE AND PAIN 7b RELIGION 3d TEMPERANCE 6a

As thy God 5c

Assent (to) *see* JUDGMENT 9 KNOWLEDGE 6d-6d(3) OPINION 3b

Assilation (biol) *see* ANIMAL 6b-7 CHANGE 8b

Association (pol) *see* EDUCATION 5a STATES 1-1d 2b 3-3f, 5-5e / *see also* FAMILY 2a GOVERNMENT 1a JUSTICE 9b LOVE 4-4c MIND 9c NATURE 1b NCESSITY AND CONTINGENCY 5b ONE AND MANY 5d WAR AND PEACE 11a

Association of ideas *see* IDEA 5c MEMORY AND IMAGINATION c MIND 1g(1) RELATION 4f SENSE 3d( ) TIME 5c

Assumption (log) *see* CUSTOM AND CONVENTION 9b HYPOTHESIS 3-4a INDUCTION 4a PRINCIPLE 1c 3c(2) / *see also* ASTRONOMY 2b DIALYTIC 3b MATHEMATICS 3a MECHANICS 2b OPINION c SCIENCE 4 5c

Astrology *see* ASTRONOMY 1 PROPHET 3b 5

Autonomy science of *see* AUTONOMY 1-7 13 MECHANICS 4a / *see also* EDUCATION 5d HYPOTHESIS 4 4d MATH 1c 5-5b PHYSICS 3 PROGRESS 6b SCIENCE 5c

Autonomy subject matter of *see* ASTRONOMY 8-1b MECHANICS 3b 4 5f-5f( ) 6d-6d( ) SENSE 3d TIME 4 WORLD 7

Autism (pol) JUSTICE 9

Asymptote (math) *see* INFINITY 3c QUANTITY 3b(4)-3c

Atavism (biol) *see* EVOLUTION 3d

Atheism *see* GOD 10 13 RELIGION 6f

Atom *see* ELEMENT 3a 5a-5d 5g INFINITY 4b MECHANICS 12 SPACE 2b(1) 2b(3) / *see also* CHANGE 2a 10c ETERNITY 4b MATTER 2 ONE AND MANY 2b-2c 3a(3) WORLD 4c

Atomism *see* CHANGE 6a ELEMENT 5 5h MAN 3c MATTER 3a 6 MIND 2c PRINCIPLE 1b SOUL 3d WORLD 4c

Atonement (theol) *see* GOD 9c PUNISHMENT 5c 5c(2) RELIGION 2f SIN 3d 4c 6e

Attachment (psychol) *see* DESIRE 4b LOVE 2a(3)

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PRINCIPLE 2a(2)-2a(3) 2b(2) 3a-3b
- Concrete and abstract (*log*) *see* IDEA 4b(1)  
MEMORY AND IMAGINATION 5b ONE AND  
MANY 1c SIGN AND SYMBOL 2c
- Concupiscence *see* LOVE 2a PLEASURE AND  
PAIN 7b TEMPERANCE 2 6b
- Conduction (*phys*) *see* MECHANICS 7c(1)  
7d(1) 7e(2)
- Confederations or alliances *see* GOVERNMENT 5a  
STATE 9c(2) WAR AND PEACE 1 11c
- Confession (*theol*) *see* SIN 4c / *see also* GOD 9c  
RELIGION 2c 2f SIGN AND SYMBOL 5c
- Confirmation (*theol*) *see* GOD 9c RELIGION 2c  
SIGN AND SYMBOL 5c
- Confiscation (*econ*) *see* WEALTH 9c(2)
- Conflict (*eth* & *psychol*) *see* DESIRE 4a MAN  
5 5a OPPOSITION 4-4c / *see also* DUTY 6  
EMOTION 2c 4a LIBERTY 3d LOVE 3c MEN-  
TORY AND IMAGINATION 8c PLEASURE AND  
PAIN 8b SLAVERY 7

Congruence (*math*) see QUANTITY 6b SPACE 3c  
 Concs (*math*) see MECHANICS 3b QUANTITY 3b(1)-3b(4)  
 Conjugal love see FAMILY 7a LOVE 2d  
 Conquist see DEMOCRACY 7b GOVERNMENT 5b JUSTICE 9f LIBERTY 6c MONARCHY 5-5b REVOLUTION 7 SLAVERY 3 6d STATE 9f TYRANNY 6 WAR AND PEACE 2 3a 6a  
 Concordance see DUTY 4-4b HONOR 2a LAW 6a LIBERTY 2b REVOLUTION 6c SIN 5  
 Concomitances see IDEA 5c MAN 2a MIND 1g(1) 1g(3) 7-7c ON AND MANY 4a / see also DEY RE 3b(2) HABIT 6 W L 5b(1)  
 Conscriptio (*pol*) see DEMOCRACY 7c WAR AND PEACE 10b  
 Consent (*pol*) see STATE 3d WILL 10 10c / see also CONSTITUTION 6 DEMOCRACY 4b GOVERNMENT 1c 1g(3)-1h MONARCHY 4e(3) O IN ON 7b TYRANNY 5c  
 Conservation of energy see MECHANICS 6c  
 Conservatism see CHANGE 12b CL TO 1 AND CONVENTION 8 PROGRESS 5  
 Contingency (*log*) see HYPOTHESIS 4c R ON 1 c 3b / see also LOGIC 1 PRINCIPLE 3 (3) TRUTH 1a 3b(3)  
 Conspiracy see REVOLUTION 1b  
 Constituent assembly see CONSTITUTION 6  
 Constituents (*pol*) see CONSTITUTION 9a DELEGATION 4 Y 5c STATE 8a  
 Constitution (*n*) see C 1 2 CONSTITUTION 4 d JUSTICE 9c LAW 7a / see also ARISTOTEL 4 Y 1-2e CITIZEN 2b-2c CUSTOM AND CONVENTION 4a DELEGATION 4 Y 3-3c 4d GOVERNMENT 2b JUSTICE 10a LAW 5c MONARCHY 1a( ) 1b(1)-1b(2) 4e(1) O IN RECHY 1-2 4 5a REVOLUTION 2a STATE 3d 3f  
 Constitution (*n*) and descriptive government see CITIZEN 2a-2b CONSTITUTION 4 1 b-3b LAW 7a-7b MONARCHY 1 1-2(2) 4c-5b TRANNY 4b-5d / see also CONSTITUTION 4 7b 8b GOVERNMENT 1b 1g( ) LIBERTY 4d SLAVERY 6b-6d  
 Constitutional convention see CONSTITUTION 4  
 Constitutionality see CONSTITUTION 4 b JUSTICE 10a LAW 5c 7a  
 Constitutional monarchy see CONSTITUTION 3 GOVERNMENT 2b MONARCHY 4(2) 4d(3) 4 (4)  
 Construction (*math*) see MATHEMATICS 2a 3b 4b  
 Consumption (*n*) see OPPOSITION 5b W A TH 7c / see also NATURE 5b N C TY ND CONSUMPTION 5c WEAL 10b  
 Contemplation see KNOWLEDGE 6 (1) LABOR 1b PHILOSOPHY 4 P E U R A B PAIN 4c  
 Contemplation and action see HAPPINESS 2b(7) KNOWLEDGE 6c(1) LABOR 4b PHILOSOPHY

4 4c 6d PLEASURE AND PAIN 4c-4c(2) PRUDENCE 2a STATE 8c WISDOM 1b 2c  
 Continence and incontinence see TEMPERANCE 1c VIRTUE AND VICE 1c / see also DESIRE 5c EMOTION 4b(1) KNOWLEDGE 8b(3) PRUDENCE 3d  
 Contingency and necessity (*log*) see JUDGMENT 6c NCESSITY AND CONTINGENCY 4-4e( ) OF POSITION 4d(2) RESONING 3d / see also KNOWLEDGE 6d(1)-6d(2) NATURE 1a(1) OPPOSITION 1 SCIENCE 4b SIGN AND SYMBOL 4e TIME 6f  
 Contingency and necessity (*phil*) see NCESSITY AND CONTINGENCY 1-3c / see also CHANCE 1a 2a FATE 3 C D 4a KNOWLEDGE 6a(1) NATURE 1a(1) 3c(1) OPPOSITION 1 SCIENCE 4b  
 Continuity and discontinuity (*math*) see C IN NG 5b ELEMENT 3a 5a-5b INFINITY 3b 4b MATHEMATICS 2c MECHANICS 3a ON AND MANY 2b 3(1)-3a(4) QUANTITY 2 4c 6a SPACE 3a TIME 1  
 Continuity and hierarchy (*phil*) see BIOLOGY 3a LIFE AND DEATH 2-3b NATURE 3b RELATION 5a(4)-5l WORLD 6b / see also ANIMAL 1b-1c 2c EVOLUTION 3c 4a 4c 7b GOOD AND EVIL 1b MAN 1a-2c SEN 2-2c  
 Contace see CONSTITUTION 6 CUSTOM AND CONVENTION 6a STATE 3d WILL 8e  
 Contadiction see JUDGMENT 7a LOGIC 2a NCESSITY AND CONTINGENCY 4e(1) OPPOSITION 1d(1) PRINCIPLE 1c 3a(3) TRUTH 3c  
 Contradictory contraries (*log*) see JUDGMENT 7a NCESSITY AND CONTINGENCY 4e(1) OPPOSITION 1a-1b c(2) 1d(1) STATE 4d OTHER 3a( )  
 Contradictory contraries (*phys*) see CHANGE 4b O IN TION 3a-3c QUALITY 4b  
 Contradiction see RELIGION 1 SIN 4e  
 Conventional and natural see CUSTOM AND CONVENTION 1 NATURE 2b / see also JUSTICE 9a LANGUAGE 2-2b NCESSITY AND CONVENTION 1 Y 5c SIGN AND SYMBOL 1-1f S AVERY 2 3 STATE 3b-3d  
 Conviction (*log*) see JUDGMENT 4b REASONING 4  
 Conversion (*heol*) see RELIGION 1 5b  
 Coordinates (*math*) see QUANTITY 6b  
 Copula (*log*) see BEING AND JUDGMENT 5b  
 Copulation (*bi*) see ANIMAL 8c(4)  
 Corporation see LAW 7f STATE 1d 2a(2) WEALTH 7d(1)  
 Corporeal substance see BEING 7b(2) MATTER 2 STATE 3c  
 Correlative correlatives (*log*) see OPPOSITION 2 QUALITY 4 RELATION 1c  
 Correspondence (*log*) see IDEAS 6c KNOWLEDGE 1 TRUTH 4

Corruptible and incorruptible substances *see* BEING 7b(3) / *see also* CHANGE 10C ELEMENT 5a ETERNITY 4a-4b SOUL 4b

Corruption (*phys*) *see* ASTRONOMY 10a CHANGE 10a ELEMENT 3C LIFE AND DEATH 7 MATTER 1b

Cosmogony subject matter of *see* CAUSE 7a CH NC 3 ELEMENT 5b GOD 7a WORLD 4-4c(3) / *see also* ASTRONOMY 6 8d GOD 5a MATTER 3d

Cosmology subject matter of *see* CH 10a WORLD and ASTRONOMY 5 ELEMENT 5b ETERNITY 2 INFINITY 3d-3e NATURE 1b TIME 2b 2c / *see also* ASTRONOMY 8c(1) BEAUTY 7b CAUSE 7-7b CHANGE 13 INFINITY 4a SOUL 11 SPACE 2c

Counsel *see* PRUDENCE 5a VIRTUE AND VICE 4d(2) WILL 2c(3)

Courage *see* CH 13 COURAGE / *see also* HONOR 5C PLEASURE AND PAIN 8a TEMP R NCE 1a VIRTUE AND VICE 2-2b(1) WAR AND PEACE 10C

Courtesy *see* HONOR 2c LOVE c SIGN AND SYMBOL 1e

Courts (*pol*) *see* GOVERNMENT 3d-3d(2) / *see also* CONSTITUTION 2a DEMOCRACY 5C LAW 5g PRUDENCE 6b

Covenant (*theol*) *see* GOD 8b PROPHECY 4a

Covetousness *see* D S RE 1a(3) SIN 2c(1) WEALTH 10C 10c(3)

Cowardice *see* COUR G 2

Creation (*theol*) *see* CAUSE 7a GOD 7a MATTER 3d / *see also* ANGEL 3a ANIMAL 8a EVOLUTION 4a 4c 1a FOR 1 1d(2) MAN 8b SA 1a AND OTHER 6 SOUL 4c TIME 2c WORLD 3b 4e-4e(3)

Credit (*econ*) *see* WEALTH 5d

Creed *see* RELIGION 6c(1) THEOLOGY 4b

Crime *see* JUSTICE 10C LAW 6e-6e(3) NECESSITY AND CONTINGENCY 5d PUNISHMENT 4-4d WEALTH 9a

Criticism (*eco*) *see* WEALTH 6c

Crisis (*med*) *see* MEDICINE 5c

Criticism (*a est*) *see* ART 11 BEAUTY 5 CUSTOM AND CONVENTION 9a JUDGMENT 4 NATU 11 5d PHILOSOPHY 2c POETRY 8-8c RITETIC b UNIVERSAL AND PARTICULAR 7C

Criticism (*log*) *see* DIALECTIC 2b 2c KNOWLEDGE 5C LOGIC 4d MATHEMATICS 4b MIND 5b PHILOSOPHY 3d

Crucial experiment *see* EXPERIMENT 5b PHYSICS 4c

Cruelty *see* PLEASURE AND PAIN 8c TOLERANCE

Culpability *see* PUNISHMENT 2a 3C SIN 5-6b

Culture = civilization *see* HISTORY 4c MAN 7c 9C PROGRESS 5-6e / *see also* ART 1a LIBERTY 6a MODERNITY 5a SCIENCE 6b STATE b-7d

Cure *see* MEDICINE 1 2b 3-3d(3) 6d-7

Curiosity *see* KNOWLEDGE 2 SIN 2b TEMPERANCE 2

Currency *see* WEALTH 5-5c

Current (*phys*) *see* MECHANICS 7e-7e(2) 7e(5)

Curriculum *see* EDUCATION 5d / *see also* ASTRONOMY 4 LOGIC 3 MATHEMATICS 1b

Curses *see* FAMILY 7b PUNISHMENT 5a

Custom and convention *see* CH 14 CUSTOM AND CONVENTION and LAW 5f MAN 7c NATURE 2b STATE 9b / *see also* BEAUTY 5 EDUCATION 4c GOOD AND EVIL 6d JUSTICE 1f LANGUAGE 2b MEMORY AND IMAGINATION 4b NECESSITY AND CONTINGENCY 5b OPINION 6a PROGRESS 5 RELATION 6b-6c SIGN AND SYMBOL 1a 1d 1f STATE 3b UNIVERSAL AND PARTICULAR 7a-7c VIRTUE AND VICE 4d(3)

Cyclical theory of history *see* HISTORY 4b PROGRESS 1c

## D

Damnation (*theol*) *see* ETERNITY 4d GOD 5f HAPPINESS 7c(3) IMMORTALITY 5c PUNISHMENT 5d 5e(1) SIN 6d VIRTUE AND VICE 8c

Day *see* ASTRONOMY 7

Day of Judgment *see* GOD 7h PROPHECY 4d

Daydreaming *see* DESIRE 5a MEMORY and IMAGINATION 8c

Death *see* LIFE AND DEATH 7 8b-8d / *see also* HAPPINESS 4b IMMORTALITY 1

Death instinct *see* LIFE AND DEATH 8b

Death penalty *see* PUNISHMENT 4b(1)

Decalogue *see* GOD 8c LAW 3b(1)

Decay (*biol*) *see* LIFE AND DEATH 6c-7 MAN 6c

Decisions (*ep*) *see* LAW 5g PRUDENCE 6b

Decision (*psychol*) *see* PRUDENCE 5b REASONING 5c(3) WILL 2c(3)

Decree *see* LAW 5a

Deduction = deductive reasoning *see* REASONING 2-3d 4c 5b-5b(5) / *see also* INDUCTION 1b JUDGMENT 7c LOGIC 1b MATHEMATICS 3a NECESSITY AND CONTINGENCY 4e(2) REASONING 6c SCIENCE 5d TRUTH 3b( ) UNIVERSAL AND PARTICULAR 5d

Defense *see* STATE 9e(1) WAR AND PEACE 3a 7

Definition *see* CH 5 DEFINITION and BEING 8c FORM 3c NATURE 4a PRINCIPLE 2a(2) 2 (3) REASONING 5b(2) SA 11 AND OTHER 4b STATE 4d STATE 4a / *see also* BEING 8c CAUSE 5b INDUCTION 3 MATHEMATICS 3a BEYOND 4b ONE AND MANY 4c PHILOSOPHY 3b PHYSICS 2a QUALITY 6a RATIO 4a SCIENCE 4a TRUTH 3b( ) UNIVERSAL AND PARTICULAR 4c

Deification *see* GOD 1a MONARCHY 2a / *see also* GOD 3f RELIGION 6a

## INVENTORY OF TERMS

## DISOBEDIENCE

- Deism *s e* GOD 12 RELIGION 6f
- Delegate (*pol*) *see* CONSTITUTION 9a DEMOCRACY 5a-5b STATE 8a
- Deliberation *see* REASONING 5c(3) / *see also* PRUDENCE 1 3-3b 4a 5a RHETORIC 1c 3a VIRTUE AND VICE 5b
- Delusion *see* MIND 8c
- Demagoguery *see* DEMOCRACY 7a TYRANNY 2c / *see also* OPINION 7b RHETORIC 1c 4a-4b 5b
- Demand and supply *see* WEALTH 4c / *see also* LABOR 6a WEALTH 4a 4c 4f 6d(3) 6e
- Demi gods *s e* ANGEL 1
- Demiurge *see* WORLD 4b
- Democracy *see* CH 6 DEMOCRACY *a d* ARISTOCRACY 2c CITIZEN 6 CONSTITUTION 9-9b GOVERNMENT 1g(3)-1h LIBERTY 1-2d OPINION 7-7b PROGRESS 4 SAVORY 5b 6c TYRANNY 2c / *see also* CITIZEN 2c-3 9 CONSTITUTION 5 EDUCATION 8d GOVERNMENT 2a 2c JUSTICE 6-6c LA OR 7f LIBERTY 6-6c MONARCHY b(3) 4 4c OLIGARCHY 3a REVOLUTION 3a 3c(2) STATE 2c 7d TYRANNY 5c
- Demon (*th ol*) *see* ANGEL 5-5b 6b 8 SIN 4b
- Demonstration (*log*) *see* BEING 8d DEDUCTION 5 PRINCIPLE 3-3a(3) REASONING 5b-5b(5) / *see also* CAUSE 5b JUDGMENT 8 MATHEMATICS 3a-3b OPINION 2c REASONING 4b 6a-6b 6d RHETORIC 4c SCIENCE 4c 4e 5d SIGN AND SYMBOL 4b TRUTH 7a
- Denomination (*log*) *see* S = NB S : OL 2c
- Density *see* M CH NCS 6b
- Dependence *see* colonies *see* DEPENDENCY 7b GOVERNMENT 5b LIBERTY 6c MONARCHY 5-5b REVOLUTION 7 SLAVERY 6d STATE 9f 10b TYRANNY 6 WA AND PACE 6
- Dependent and independent being *see* BEING 7b, 7b(4) NECESSITY AND CONSEQUENCE 2-2b / *see also* CAUSE 7a GOD 4 5c NATURAL 3c(4) ONE AND MANY 1a-1b WORLD 3-3b
- Depressions (*econ*) *see* W LTH 6
- Destruction of man *s e* EVOLUTION 7-7b(3) MAN 8c
- Description and explanation (*log*) *see* CAUSE 5-5d HYPOTHESIS 4-4b PHYSICS 5b 5c 1c 4c / *see also* ASTRONOMY b 3-3b M CH NCS c 7a(1)
- Desire *see* CH 7 DESIRE *and* GOOD AND EVIL 3c LOVE 1c / *see also* AN 1(3) B UTY 3 BEING 3b ELECTION 2-2 HA IT 3a 1 4 11y 6a M IRY AND I GINATION 8c MIND 1c(3) 9b PLASURE AND PAIN 6a-6b 6d PRUDENCE 3a SENSE 3c VIRTUE AND VICE 5 W L I
- Despair *see* COURAGE 3 EMOTION 2a LIFE AND DEATH 8b SIN 2c(1) VIRTUE AND VICE 8d(2)
- Despotism and constitutional government *see* CITIZEN 2a-2b CONSTITUTION 1 2b-3b LAW 7a-7b MONARCHY 2-1(2) 4c-5b TYRANNY 4b-5d / *see also* CONSTITUTION 4 7b 8b GOVERNMENT b 1g( ) LIBERTY 1d 1f SLAVERY 6b-6d
- Destiny *see* CH 7 FATE *and* CHANCE 2b CHANG 15b HISTORY 4a(1) LIBERTY 3 PROPHET 1a W L 7b-7c
- Determinism (*philos*) *see* CHANCE 2a FATE 5 NECESSITY AND CONTINGENCY 3-3c / *see also* CAUSE 3 HISTORY 4-4c LIBERTY 4b 5 MECHANICS 4 NATURAL 3c(2) NECESSITY AND CONTINGENCY 5a( ) WILL 5 5b(4) WORLD 1-1c 3-3b
- Deterrence *s e* PUNISHMENT 1d
- Devil (*th ol*) *see* ANGEL 5-8 SIN 4b
- Devotion (*theol*) *s* DUTY 11 GOD 3c-3e JUSTICE 11b LOVE 5 (1) RELIGION 2-2g
- Dignity *see* MEDICINE 3 5c SIGN AND SYMBOL 4
- Dialectic *s e* CH 8 DIALECTIC *and* BEING 4a HISTORY 4a(3) HYPOTHESIS 1d 5c INDUCTION 4a MATHEMATICS 1-2b REASONING 5c RHETORIC 1a TRUTH 4d WISDOM 1a / *see also* GOOD AND EVIL 5c LOGIC 1b 4d MATHEMATICS 1b METAPHYSICS 3c PHYSICS 1a PRINCIPLE 3-3c(3) PROGRESS 1a
- Dichotomy (*log*) *see* DEFINITION OPPOSITION 1c(1)
- Diet (*med*) *see* MEDICINE 3d(1)
- Difference and likeness *see* QUALITY 4c SAME AND OTHER 2c 3c
- Difference (*log*) *s e* DEFINITION 2b OPPOSITION ( ) SEPARATION 4b / *see also* FORCE 3c NATURE ( )-1a(2) 4a ONE AND MANY 3b(1)
- Dignity *see* ANIMAL 5c 6b
- Dignity of man *s e* GOD 3f MAN 1-11 WISDOM 7 / *see also* LA OR 1f MAN 1-3-3c MIND 3 S AND OTHER 6 SOUL 3b WORLD 2
- Dimension and dimensionality *see* QUANTITY 3 SC 1
- Diplomacy diplomat *see* GOVERNMENT 5a / *see also* STATE 9c-9c( ) WAR AND PACE 6-6b 10g
- Discovery (*lg*) *see* EXPERIENCE 5a LOGIC 4b PHYSICS 4b REASON 4b SCIENCE 5b / *see also* HYPOTHESIS 2 4-4b INDUCTION 5 PROGRESS 6c TRUTH 8d
- Discrimination (*psychol*) *see* I A 5c 11 5c 3d(1)
- Secure knowledge *s e* KNOWLEDGE 6c( ) REASONING b
- Dissection *see* MEDICINE 5-7 MIND 8a-8c / *see also* LIFE AND DEATH 5 MAN 5b
- Disfranchisement *see* LA OR 7d SLAVERY 5a 5b
- Dissolution (*lg*) *see* JUDGMENT 6d
- Disobedience (*th l*) *see* A = L5a GOD 3b SIN 1 3b



- D**isposition (*psychol*) see **EMOTION** 4c **HABIT** 2  
**MAN** 6a **QUALITY** 23 **VIRTUE AND VICE** 2c 42
- Disproof** see **REASONING** 4c
- D**isputation see **DIALECTIC** 2b(2) 3b **INDUC-  
TION** 4a **LOGIC** 5 **OPPOSITION** 1c **PHILOSOPHY**  
6b **THEOLOGY** 5
- D**istance see **ASTRONOMY** 9a **QUANTITY** 32 52  
6c **SPACE** 3d
- D**istinctness (*l g*) see **BEING** 4b **IDEA** 3b 6d  
**TRUTH** 11 3b(1) / see also **KNOWLEDGE** 6d(3)  
**UNION** 3b **TRUTH** 3d(3)
- D**istribution (*econ*) see **JUSTICE** 8-8a **LABOR** 4a  
**REVOLUTION** 4b **WEALTH** 8-8d
- D**istributive justice see **JUSTICE** 5 9c **WEALTH**  
8-8d / see also **DEMOCRACY** 42 **HONOR** 4b  
**JUSTICE** 8a **OLIGARCHY** 5a
- D**iversity and identity (*metaph*) see **SAME AND  
OTHER** 1-3d / see also **ONE AND MANY** 22  
**PRINCIPLE** 3a(3) **SOUL** 1d
- D**ivination see **ASTRONOMY** 11 **MEMORY** AND  
**IMAGINATION** 8a **PROPHETCY** 3-3c 5 **SIGN AND  
SYMBOL** 5b
- D**ivine beatitude or glory see **GOD** 4h **HAPPI-  
NESSES** d **HONOR** 6a
- D**ivine being see **GOD** 4-4h / see also **CHANGE**  
15c **ETERNITY** 3 **INFINITY** 7-7d **LIBERTY** 5d  
**MIND** 10g **NATURE** 1b **NECESSITY AND CON-  
TINENCY** 22-2b **ONE AND MANY** 1b **WORLD**  
3-3b
- D**ivine causality see **CAUSE** 7-7d **GOD** 5a-5d  
**NATURE** 3c(4) **WORLD** 4-4c(3) / see also **ART**  
2c **GOD** 2b **LITERATURE** 5a 5c **MATTER** 3d
- D**ivine choice see **GOD** 5b **LIBERTY** 5d **WILL** 4b
- D**ivine election or predestination see **CHANGE** 2b  
**FEEL** 4 **LIBERTY** 5c **SIN** 6a **WILL** / c
- D**ivine freedom see **GOD** 4c **LIBERTY** 5d **NECES-  
SITY AND CONTINGENCY** 22
- D**ivine goodness see **GOD** 4f **GOOD AND EVIL**  
2 22 **INFINITY** 7c / see also **GOD** 5h **GOOD AND  
EVIL** 2b **KNOWLEDGE** 5d **OPPOSITION** 2d  
**WORLD** 6d
- D**ivine government see **CAUSE** 7c **GOD** 7c **JUS-  
TICE** 12 **LAW** 3-3b(2) **WORLD** 1c
- D**ivine grace see **GOD** 4d / see also **CAUSE** 7d  
**HABIT** 5c(1) **LIBERTY** 5c **MAN** 9b(3) **MIND**  
5c **NATURE** 6b **SIN** 7 **VIRTUE AND VICE** 8b  
**WILL** 7c( )
- D**ivine ideas see **FORM** 2b **GOD** 5f **IDEA** 1c
- D**ivine intellect or mind see **GOD** 4g **IDEA** 1c  
**MIND** 10g **UNIVERSAL AND PARTICULAR** 4b  
**WILL** 4a
- D**ivine justice and mercy see **GOD** 5i **JUSTICE**  
11-11b **PUNISHMENT** 5c-5c(2)
- D**ivine knowledge see **GOD** 5f **INFINITY** 7d  
**KNOWLEDGE** 7a **LIBERTY** 5b
- D**ivine language see **LANGUAGE** 12 **PROPHETCY**  
3d **RELIGION** b(1) **SIGN AND SYMBOL** 5c
- D**ivine law see **DUTY** 5 **GOD** 7c 8c **LAW**  
2-3b(2) 4d **MAN** 9b(3) **PROPHETCY** 2c **SIN** 1  
**SLAVERY** 2c
- D**ivine love see **GOD** 5h **GOOD AND EVIL** 22 **IN-  
FINITY** 7c **LOVE** 5-5c
- D**ivine nature see **GOD** 11 4-5i 92-9b(2) **ONE  
AND MANY** 6-6b **OPPOSITION** 2c **SIGN AND  
SYMBOL** 5f
- D**ivine power see **GOD** 5c **INFINITY** 7b
- D**ivine providence see **GOD** 7b / see also **CAUSE**  
1c **CHANCE** 2b **FATE** 4 **GOD** 12 **HISTORY** 52  
**LIBERTY** 5a-5b **MAN** 9b-9b(3) **PROPHETCY**  
1b-1c **WILL** 7c
- D**ivine rewards and punishments see **GOD** 11 5i  
**IMMORTALITY** 4 **VIRTUE AND VICE** 8c / see also  
**ETERNITY** 4d **HAPPINESS** 7c-7c(2) **IMMORTALITY** 5c-5f  
**PUNISHMENT** 5d-5c(2) **SIN** 6c-6e
- D**ivine right of kings see **MONARCHY** 2c
- D**ivine truth see **TRUTH** 2d
- D**ivine unity and simplicity see **GOD** 4b **ONE  
AND MANY** 6a-6c
- D**ivine will see **GOD** 5g **WILL** 4-4b / see also **FATE**  
4 **LIBERTY** 52 **MIND** 10g **WILL** 7c
- D**ivine wisdom see **WISDOM** 1d
- D**ivinity of kings see **MONARCHY** 22
- D**ivisibility and indivisibility (*math phys*) see  
**CHANGE** 5b **ELEMENT** 32 5a-5b **INFINITY** 3b  
4b **MATHEMATICS** 2c **Mechanics** 32 **ONE  
AND MANY** 2b 32-32(4) **QUANTITY** 2 4c 62 7  
**SPACE** 32
- D**ivision (*l g*) see **DEFINITION** 22 **DIALECTIC**  
22(2) **OPPOSITION** 1c(1)-1c(2)
- D**ivision (*math*) see **INFINITY** 32 **MATHEMATICS**  
42 **QUANTITY** 4b
- D**ivision of labor see **LABOR** 4-4c **PROGRESS** 32  
**STATE** 5c **WEALTH** 32
- D**ivorce see **FAMILY** 4c
- D**ogma (*the l*) see **RELIGION** 6c(1)-6c( ) **THEO-  
LOGY** 4b-4c 4c / see also **GOD** 7-9f **LIBERTY** 4f  
**UNION** 4-4b **RELIGION** 1-1b(3) 6b **THEOL-  
OGY** 2 **TRUTH** 42
- D**ogmatism see **KNOWLEDGE** 5c / see also **MATHE-  
MATICS** 41 **OPINION** 4b **PHILOSOPHY** 6b 6c  
**SCIENCE** 1b 4c **THEOLOGY** 5
- D**oing and making see **KNOWLEDGE** 6c(2) **PRO-  
VIDENCE** 2b / see also **KNOWLEDGE** 82 **LIBERTY**  
2-2b **SCIENCE** 3-3b **VIRTUE AND VICE** 22(2)
- D**ole (*econ*) see **LABOR** 7c **WEALTH** 8d
- D**omestic economy see **FAMILY** 3 3b **LABOR** 52  
**WEALTH** 2 3d
- D**omestication of animals see **ANIMAL** 122
- D**oubt see **KNOWLEDGE** 5d **OPINION** 3b / see also  
**JUDGMENT** 9 **KNOWLEDGE** 5c **NECESSITY AND  
CONTINGENCY** 42 **TRUTH** 72
- D**rama see **POETRY** 42-4b 7-8b
- D**ream analysis see **MIND** 10g **IMAGINATION**  
8c / see also **LANGUAGE** 10 **MEMORY** AND

IMAGINATION 8d-8d( ) SIGN AND SYMBOL 6a  
 Dreams *see* MEMORY AND IMAGINATION 8 8c  
 PROPHECY 3c SIGN AND SYMBOL 6a / *see also*  
 DESIRE 5a 6c LANGUAGE 10 MIND 7b RELATION 4f SIGN AND SYMBOL 5b  
 Drugs *see* MEDICINE 3d(2)  
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